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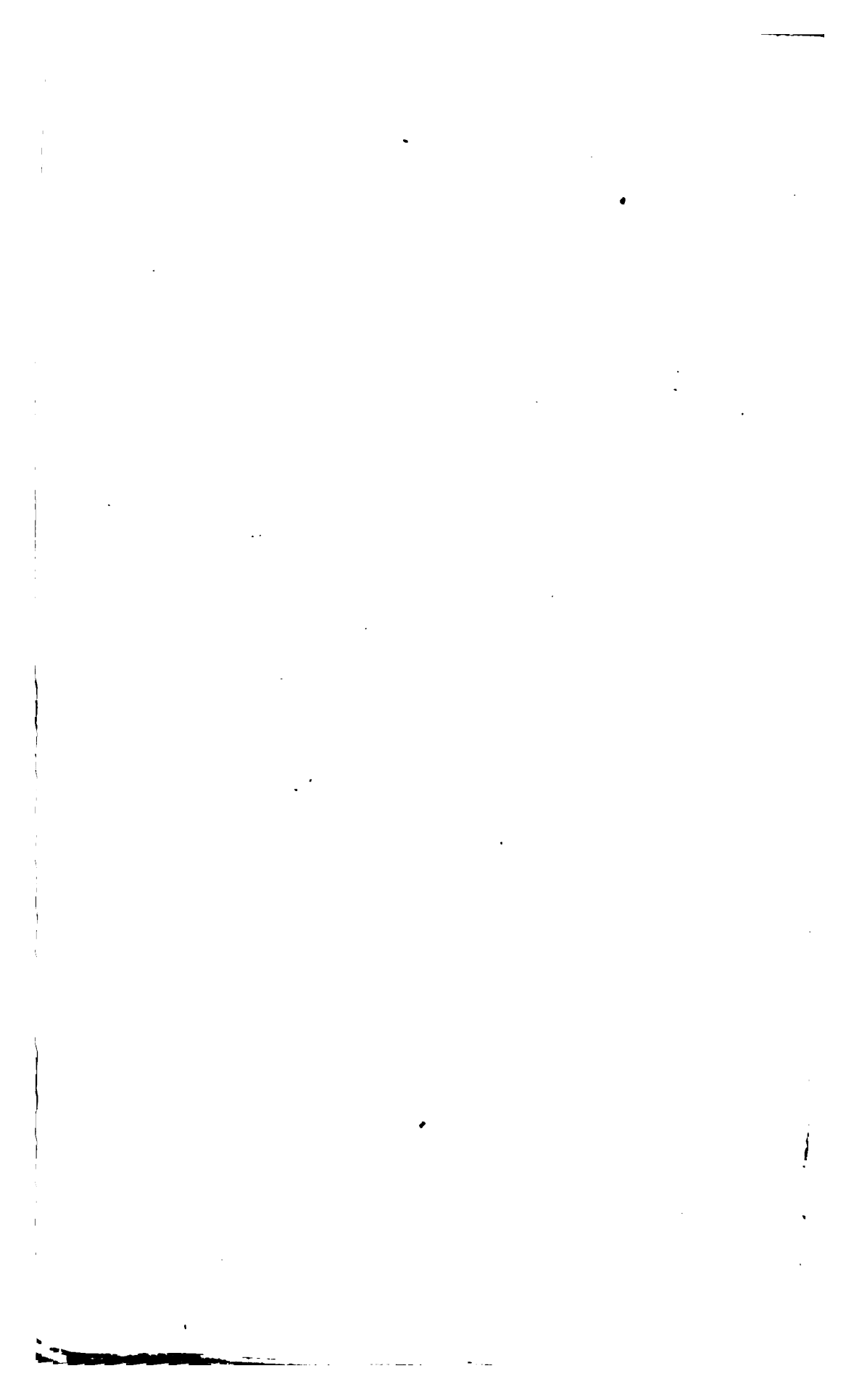
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WILLIAM CHESWOLD,
CIVIL ENGINEER.



THE
THEORY, PRACTICE, AND ARCHITECTURE
OF
BRIDGES

OF STONE, IRON, TIMBER, AND WIRE;

WITH
EXAMPLES ON THE PRINCIPLE OF SUSPENSION:

ILLUSTRATED BY

One Hundred and Thirty-eight Engravings
AND NINETY-TWO WOODCUTS.

VOL. IV.



RE-ISSUE, WITH SOME EMENDATIONS.

FACED BY A PORTRAIT OF

WILLIAM CHAPMAN, C.E.

CONTENTS OF THIS VOLUME—PLATES, NUMBERED FROM 66 TO 122.

London:
JOHN WEALE, No. 59, HIGH HOLBORN.

1855-56.

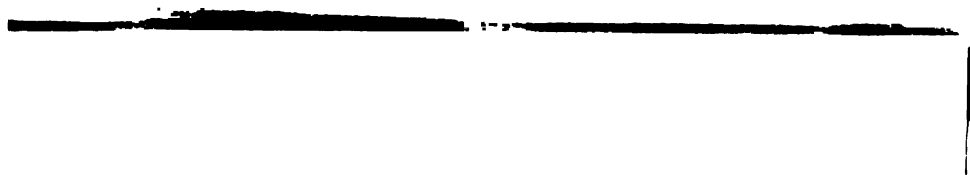


Trestle bridge, Umanu Creek, Mich.

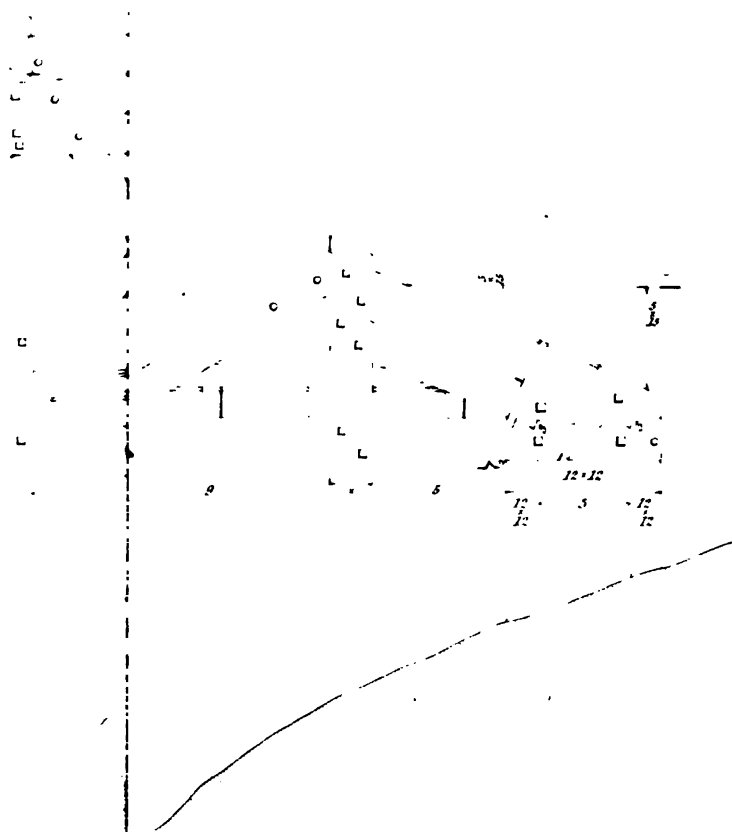
Spans of 29 feet

Scale 6 feet = 1 inch

E. Mansell sc.



Plat. 61.



Span of 100 feet

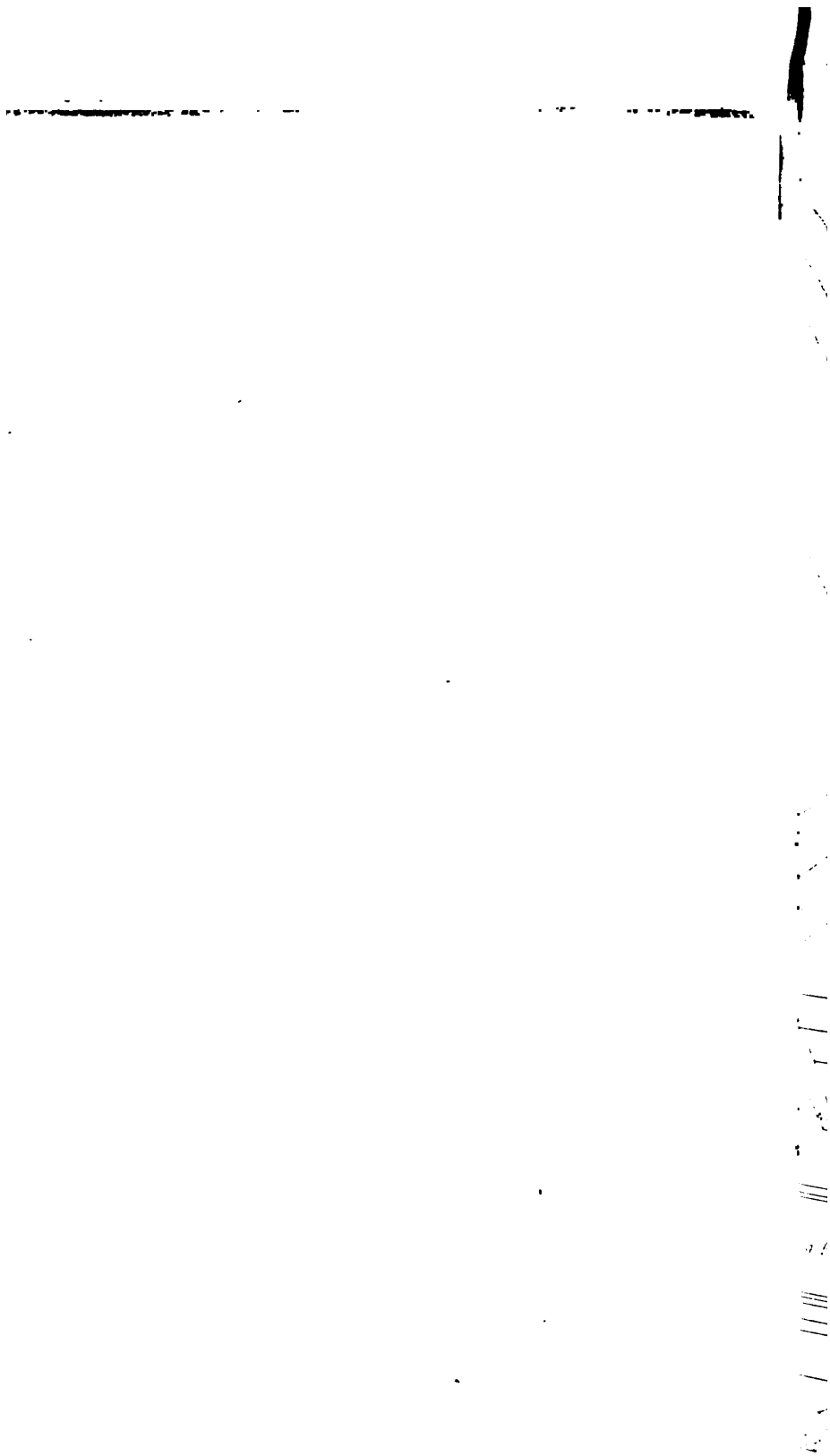
E. Mansell

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10/10/10	100	100	100	100	200	300	400

100 feet 1 inch

100

100



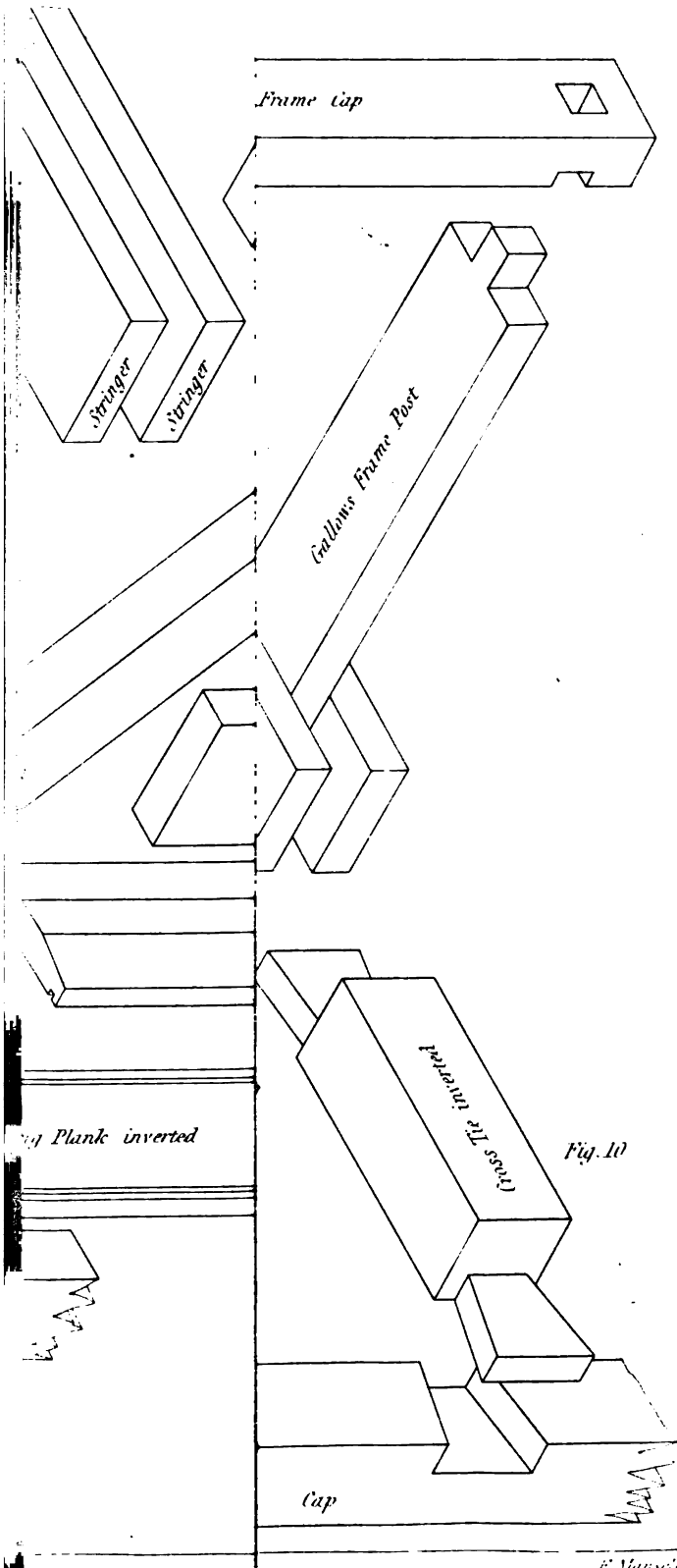
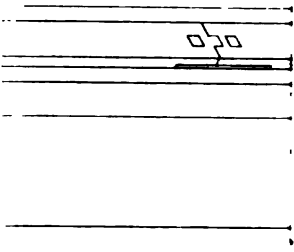


Fig. 10



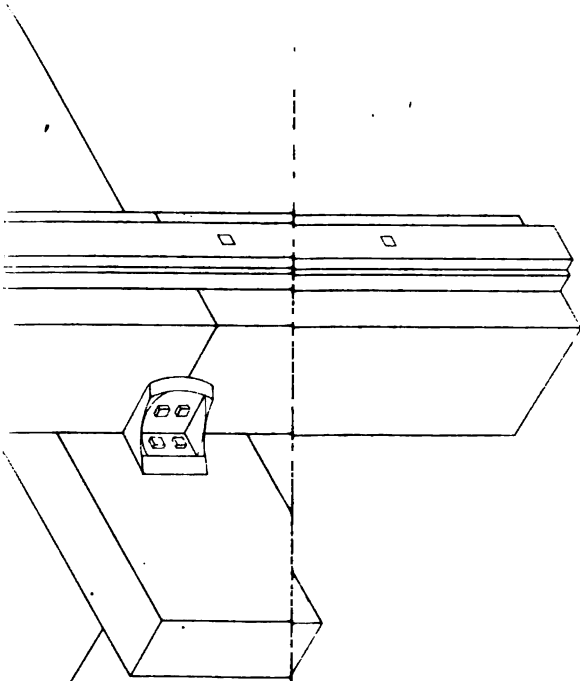




on of Superstructure

Road

one foot



F. Mansell sc.

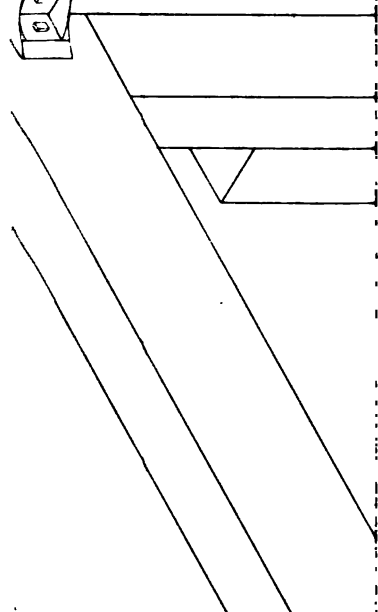
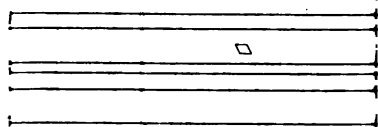
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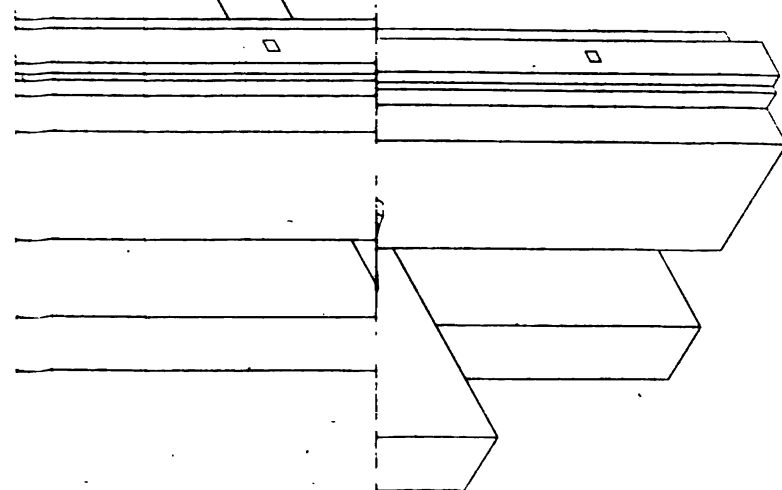
[REDACTED]

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*Projection of Superstructure
for
Graded Road*





ing Plates

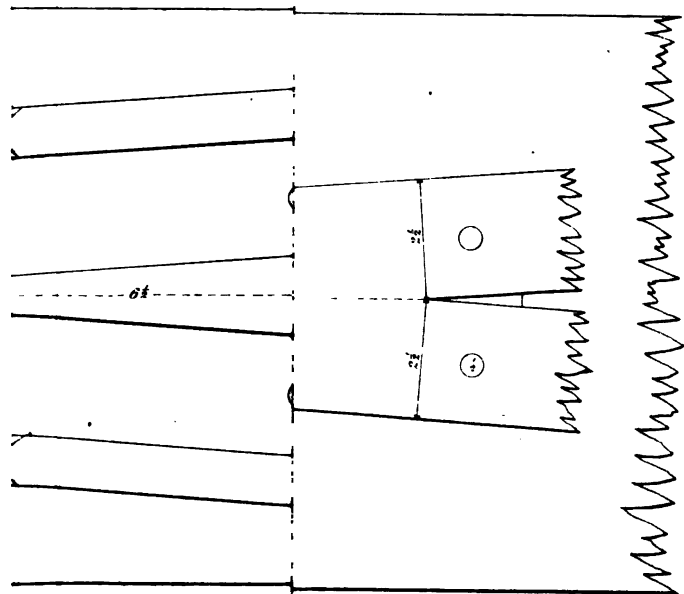
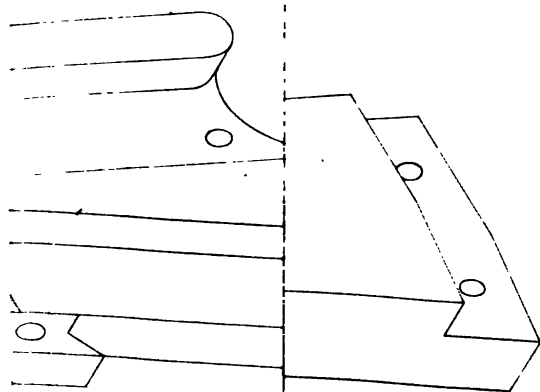
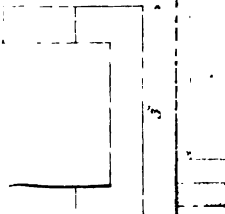
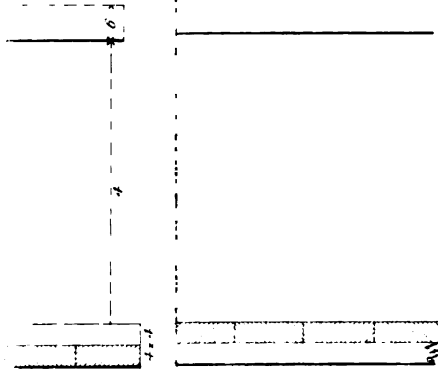


Fig. 2



November, 1844



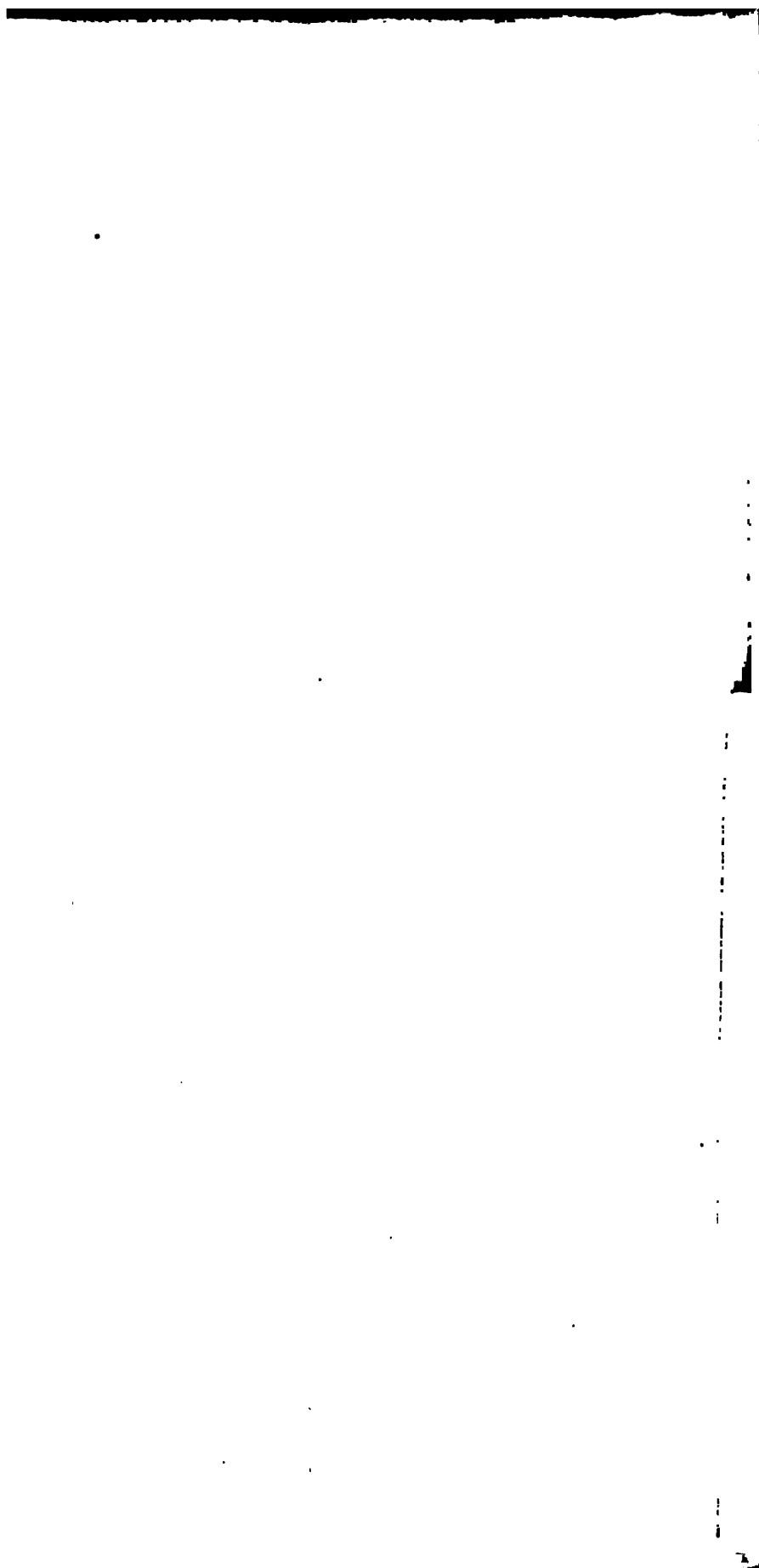
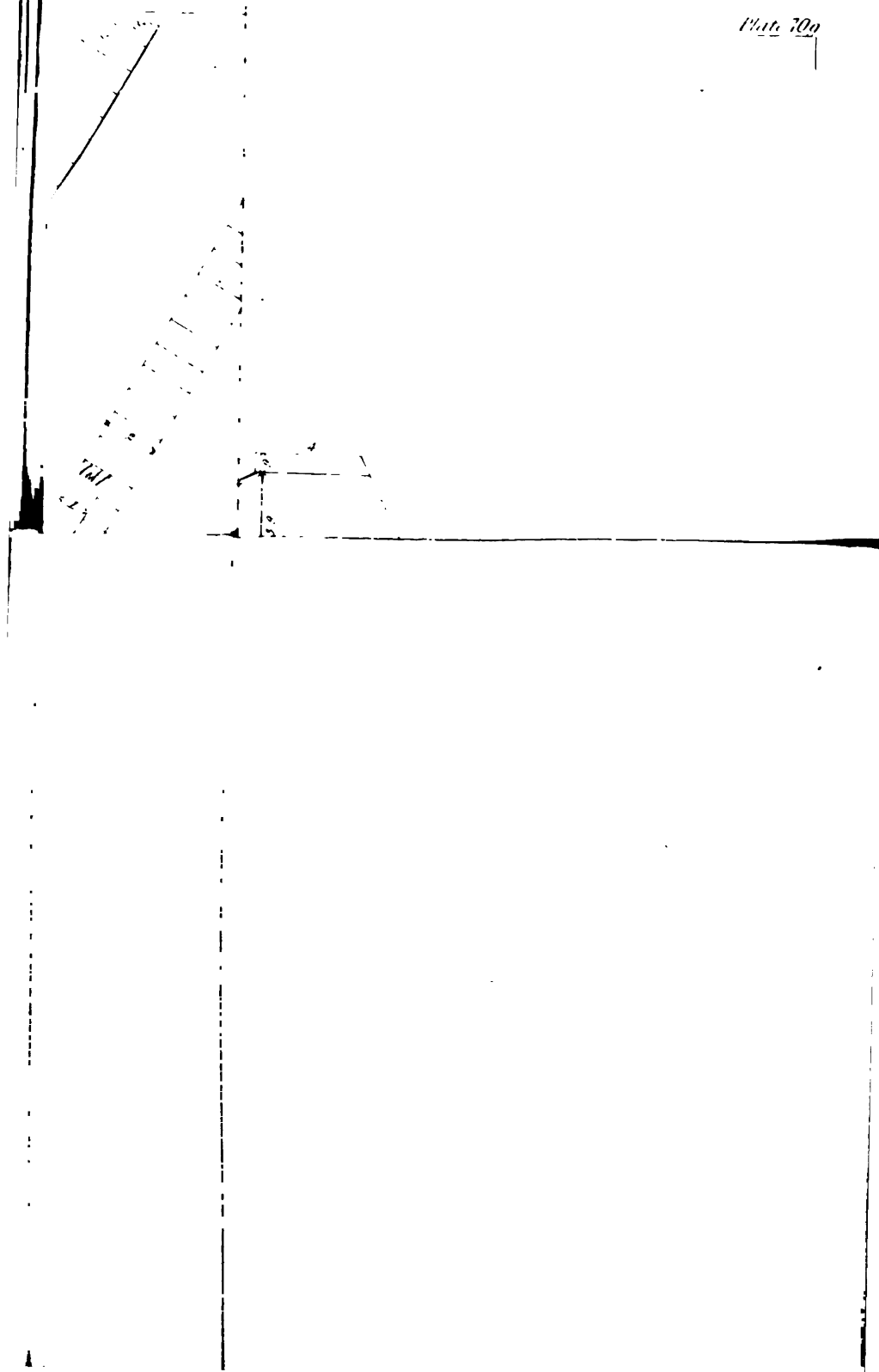
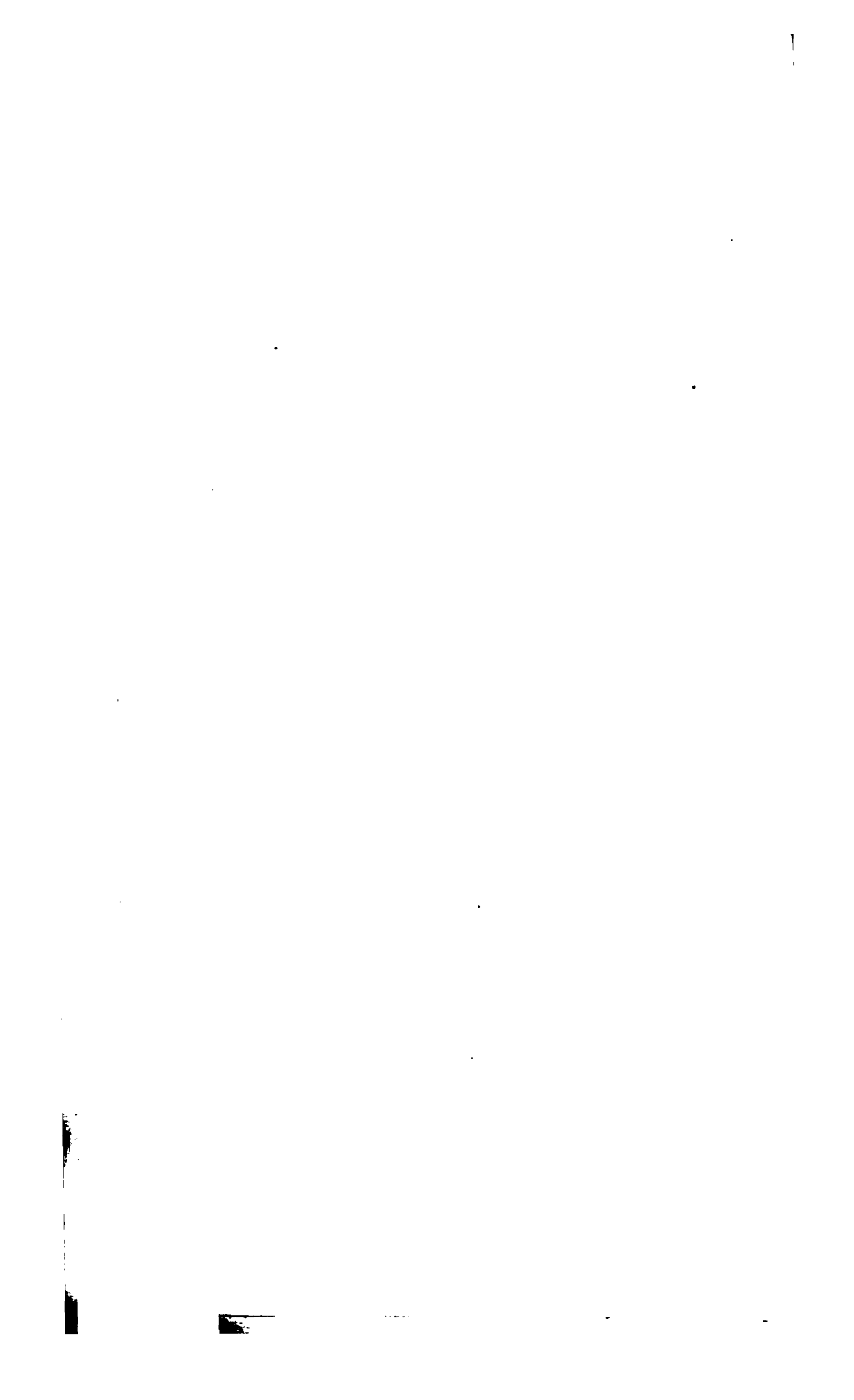
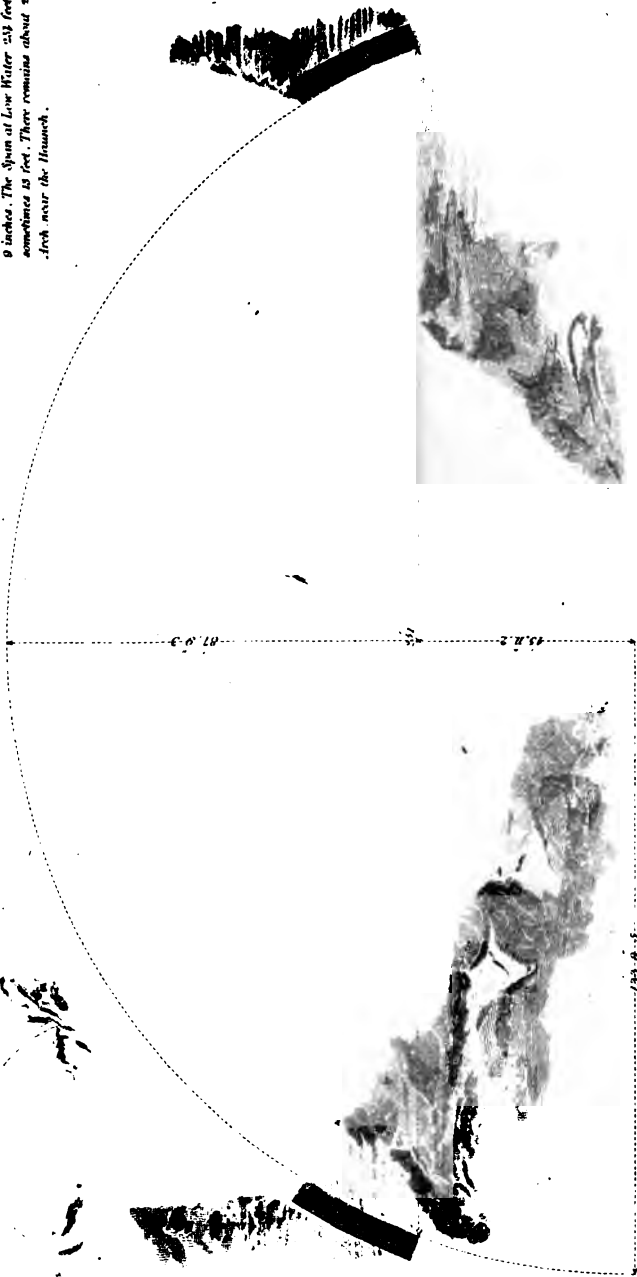


Plate 70a



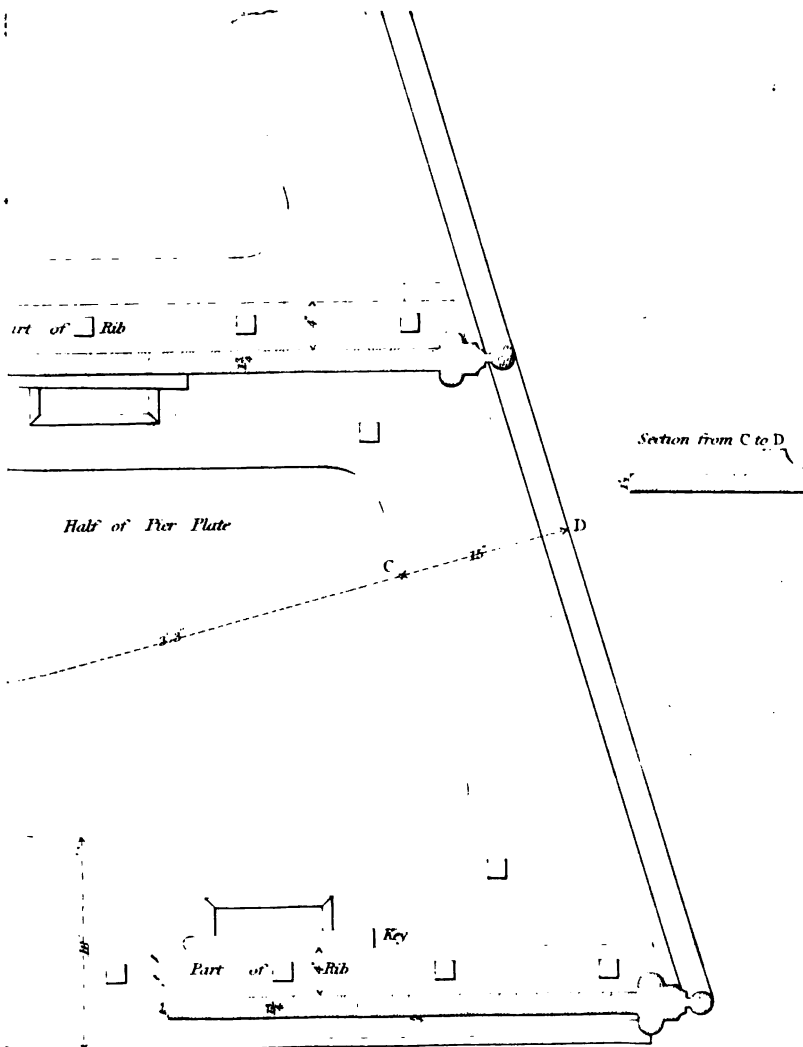


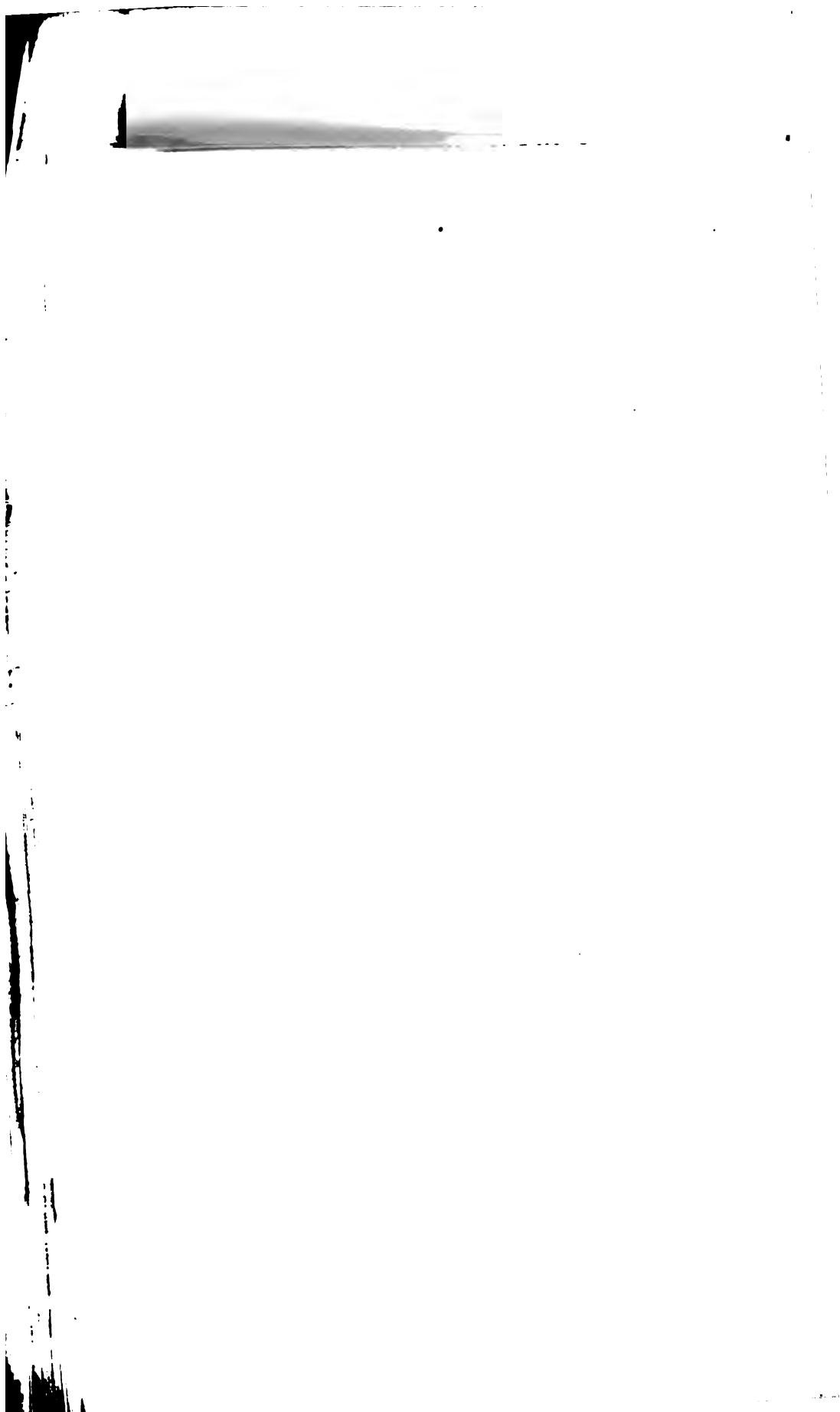
The Bridge of Trezzo was built by order of Humbert, Visconti, Duke of Milan. It was afterwards destroyed by the French. It consisted of a single arch of granite, very well constructed of stones in two courses, the innermost 34 feet thick in the direction of the river, the outermost 9 inches. The span at low water 218 feet. The river rises sometimes 25 feet. There remains about 25 feet of the arch near the launch.

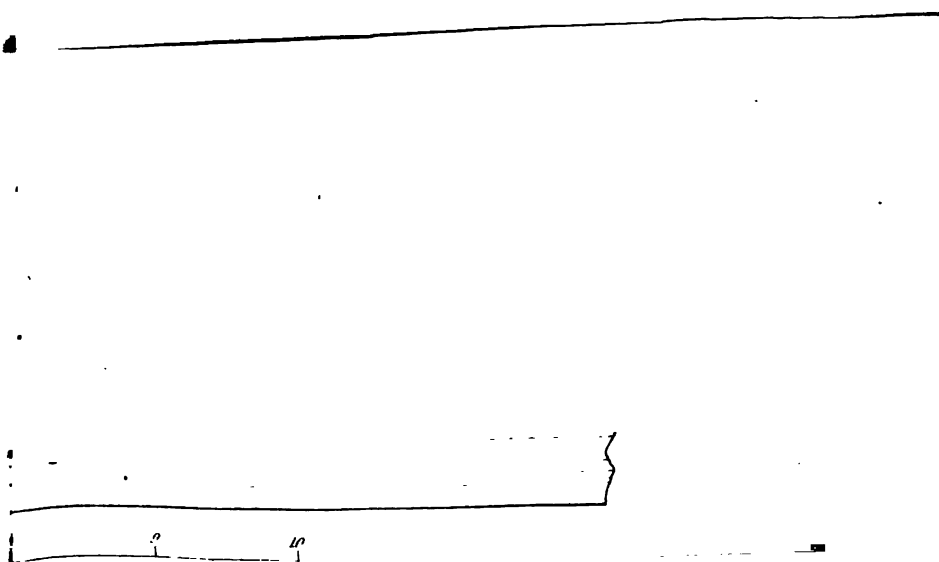
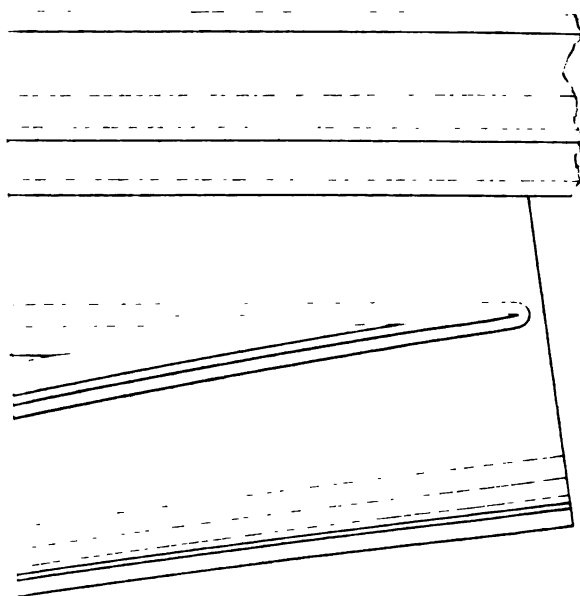


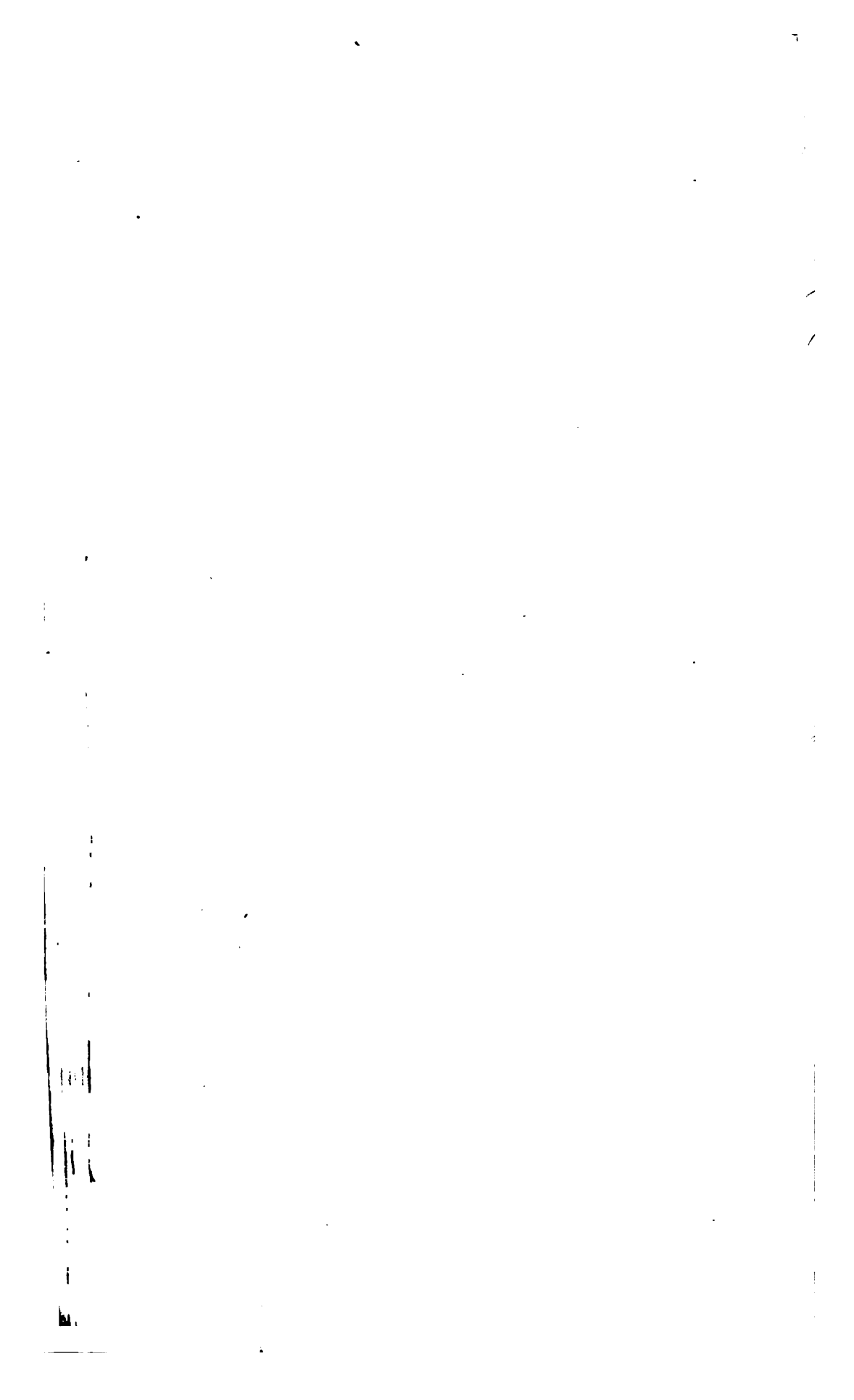
REMAINS OF THE BRIDGE OVER THE RIVER ADDA, AT TREZZO, MILANESE.

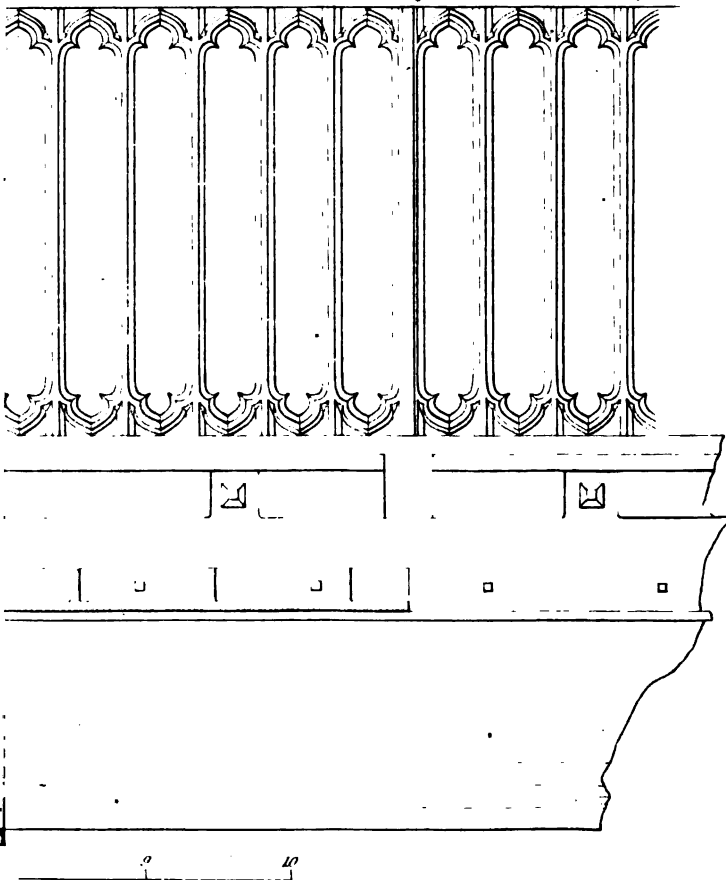




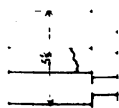














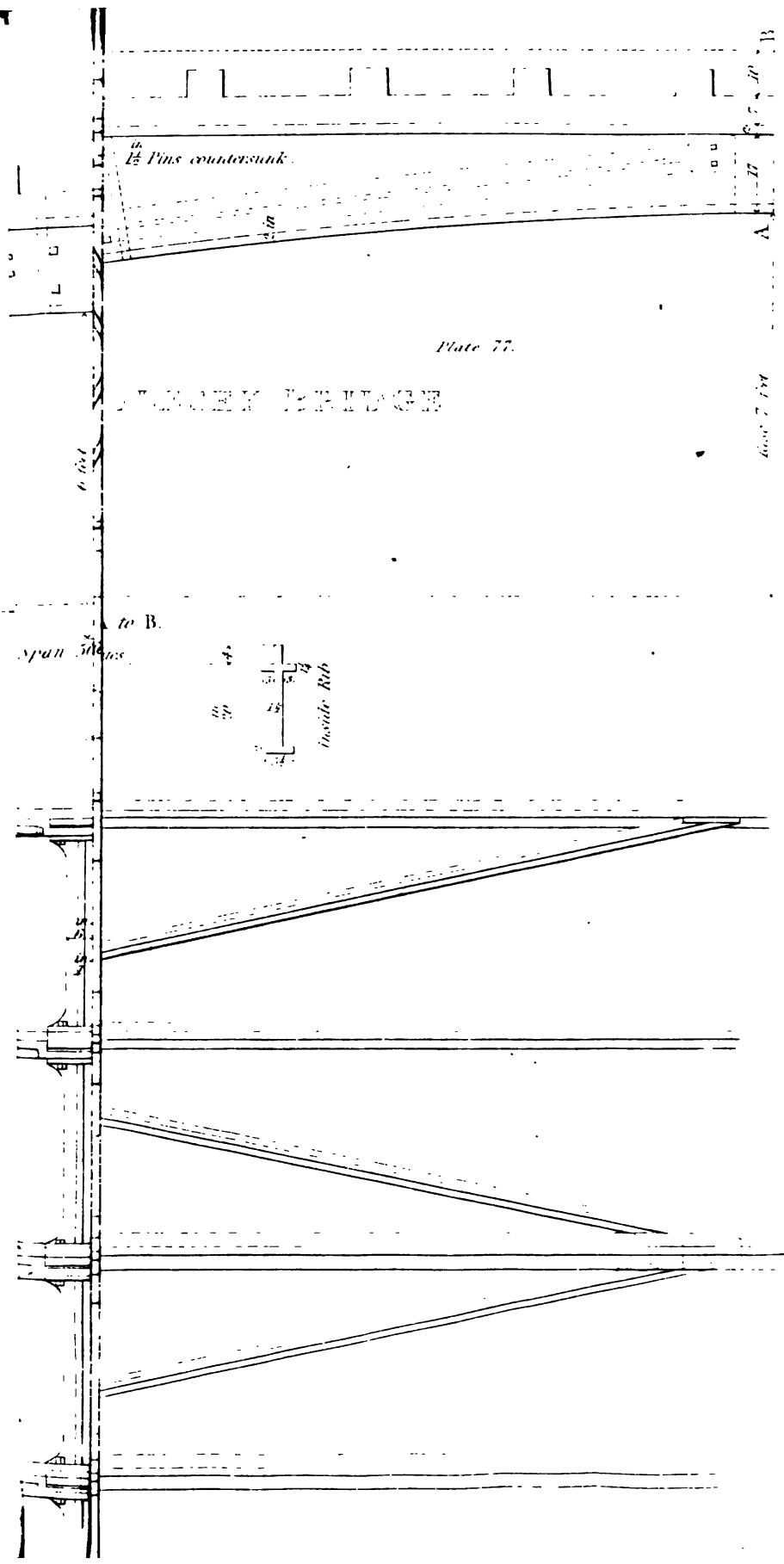
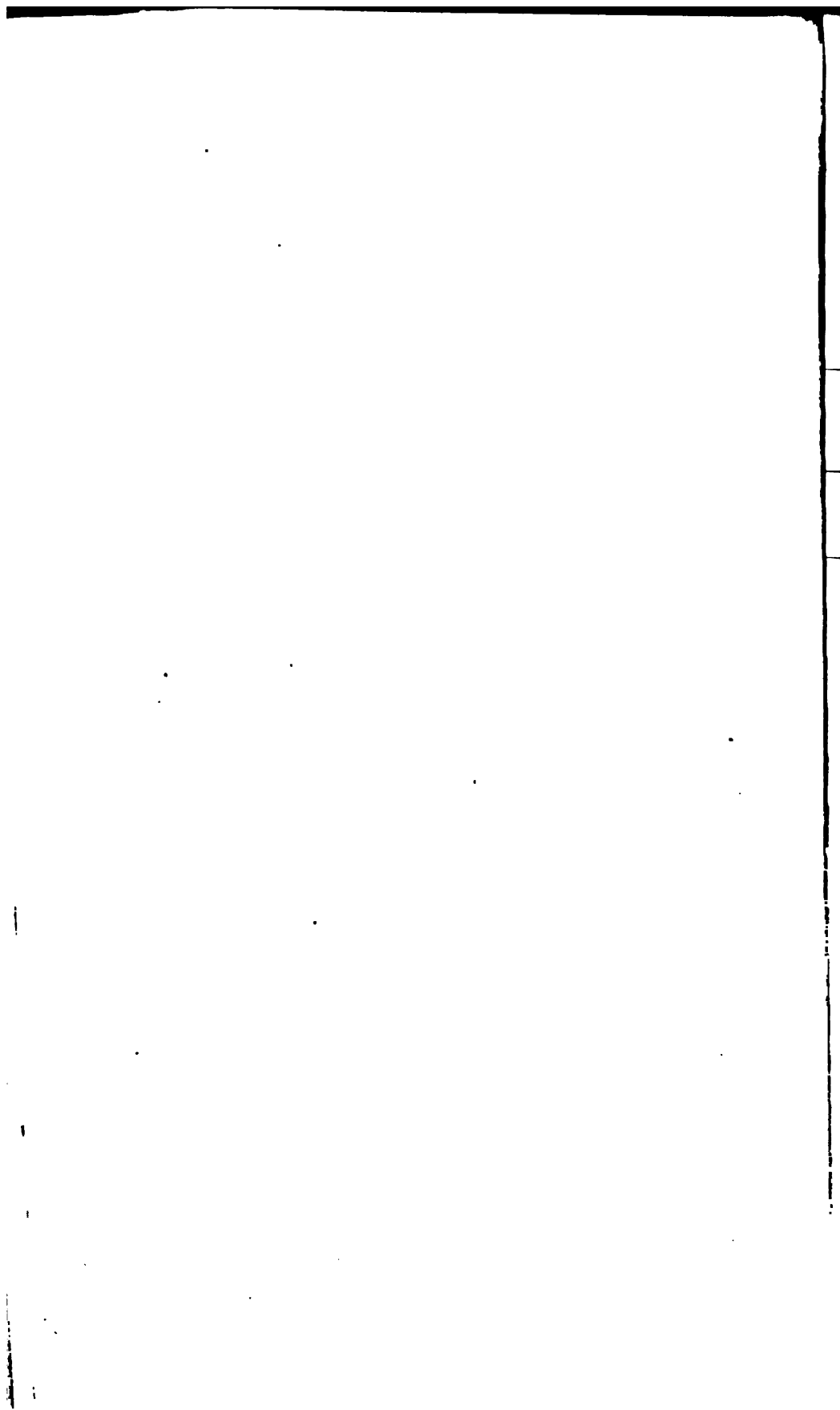


Plate 77.

Fig. 7. 1894





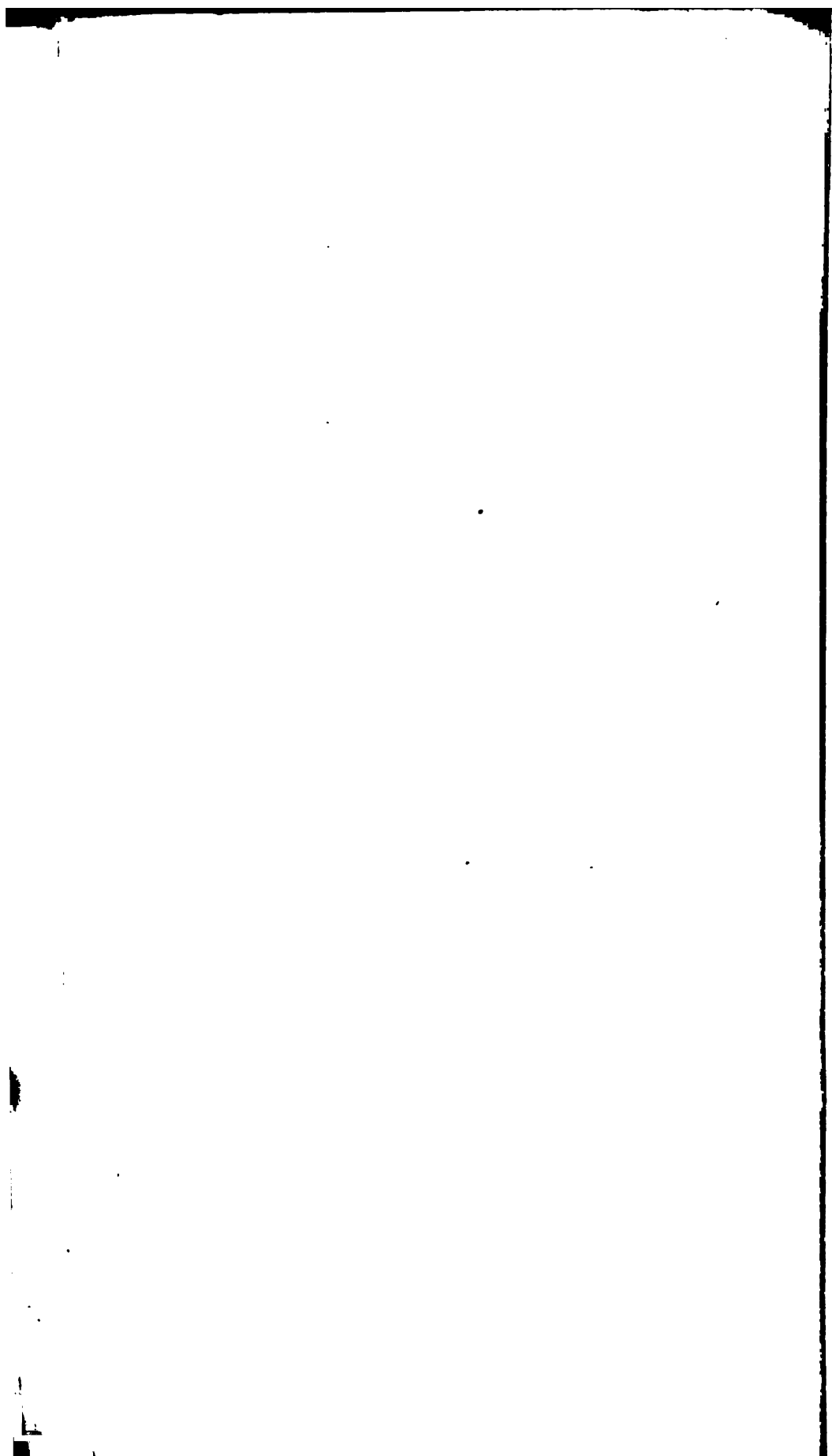
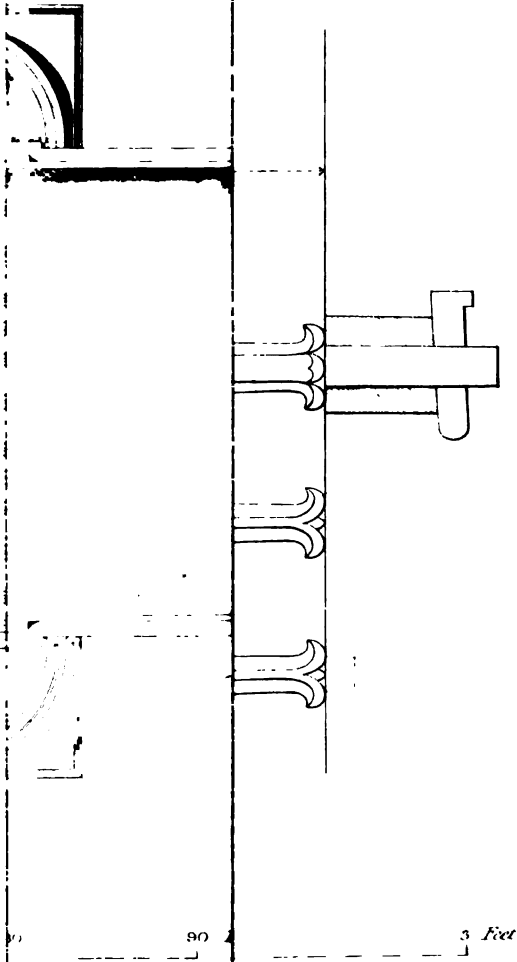


Plate 82.



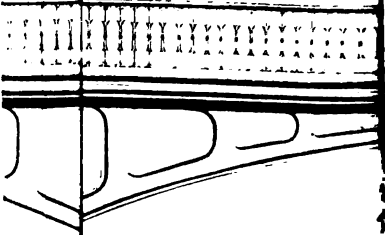
Carriage Way 24 Feet wide.

Centre Arch 16 Feet above low water.

& 20 Feet above bed of River.



HUNTERLEY CON



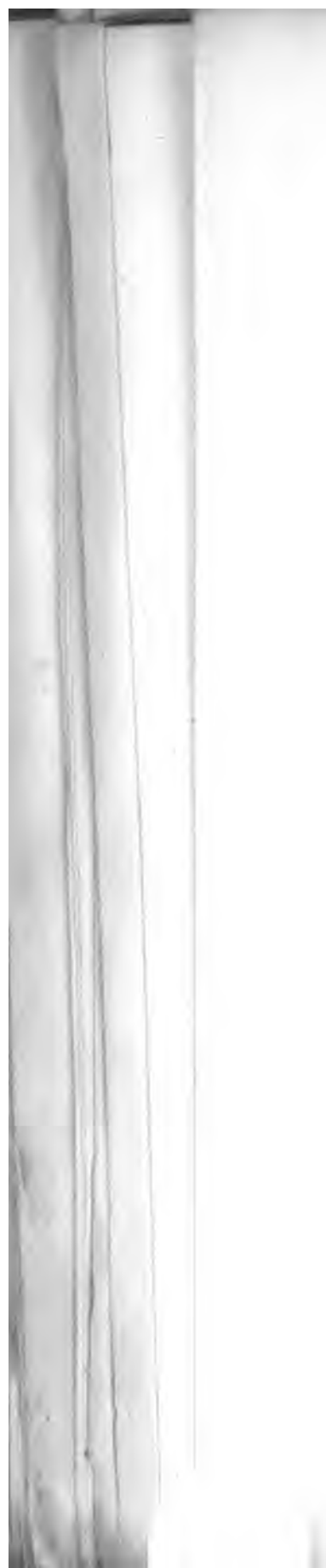
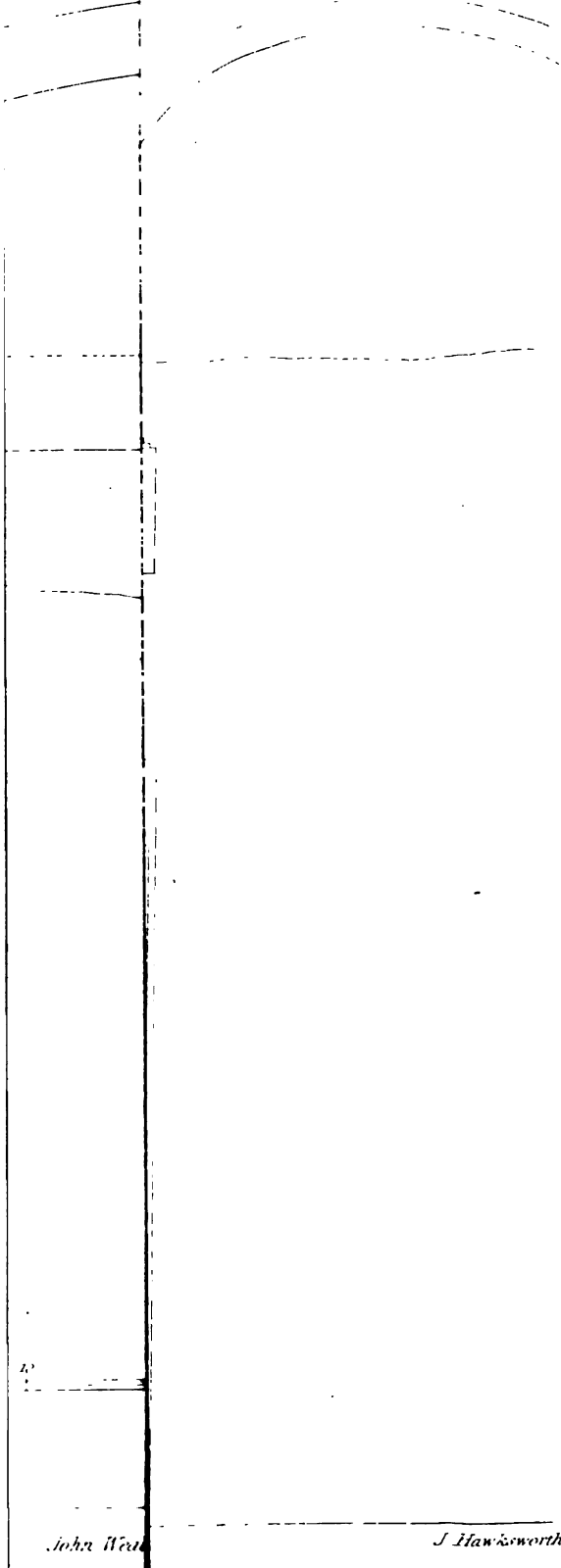
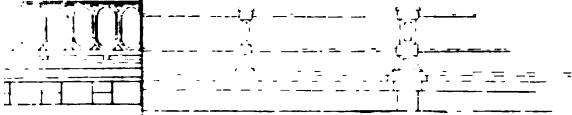
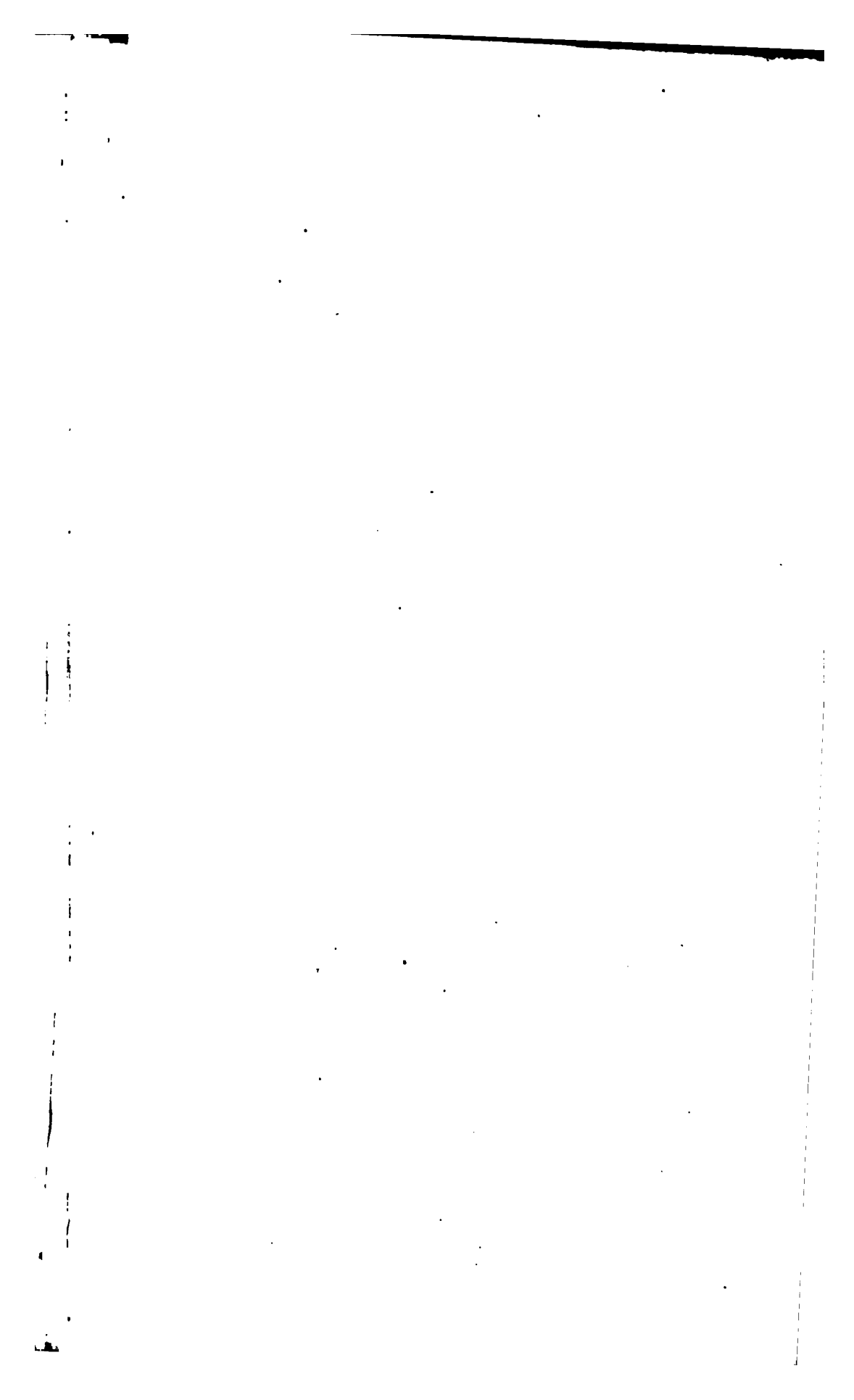
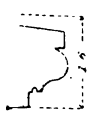
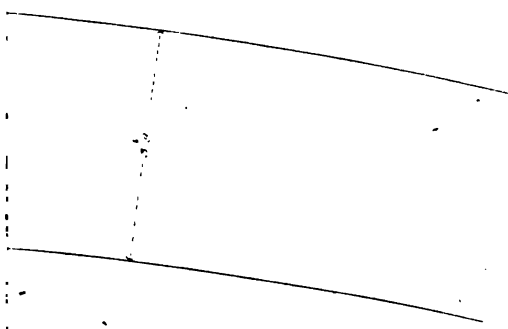
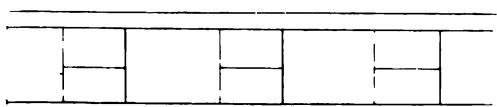
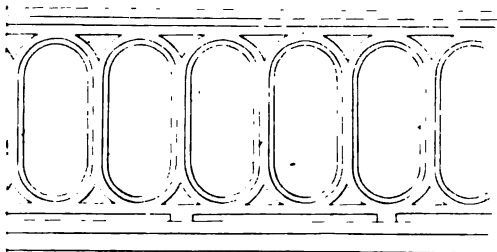


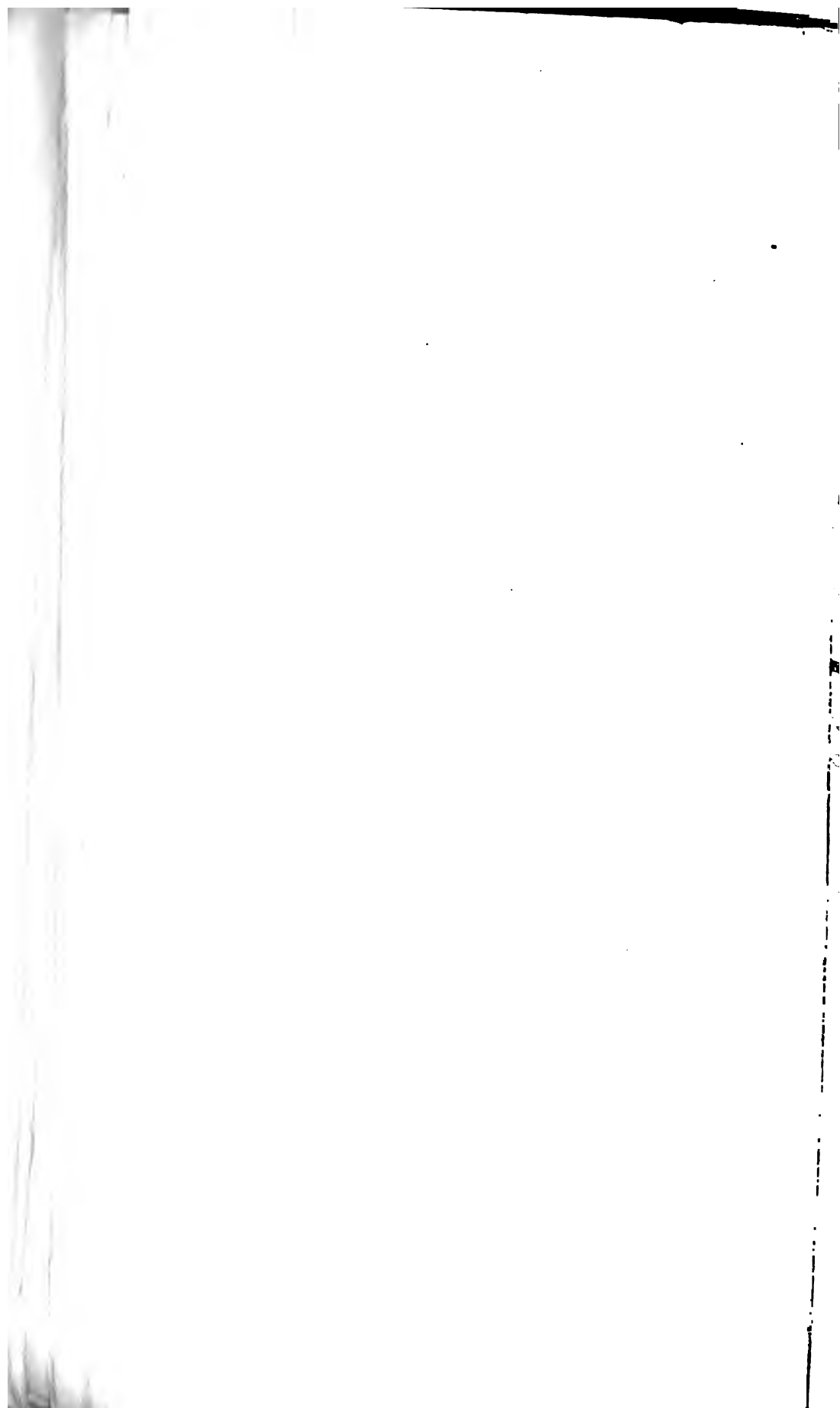
PLATE PA

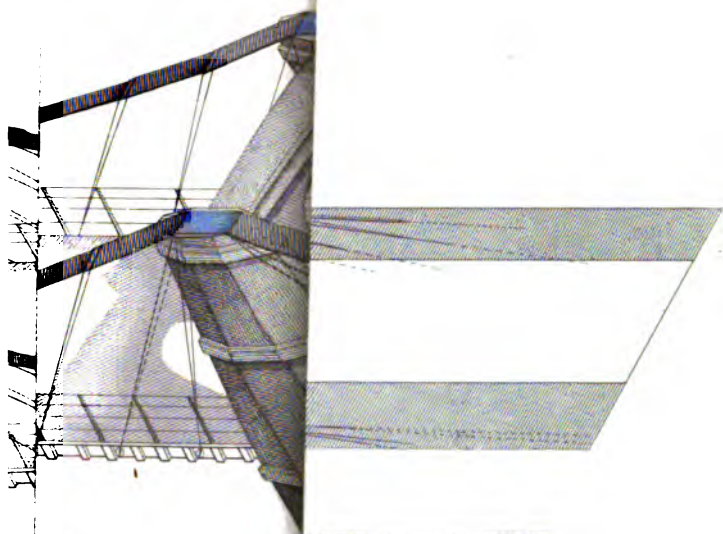


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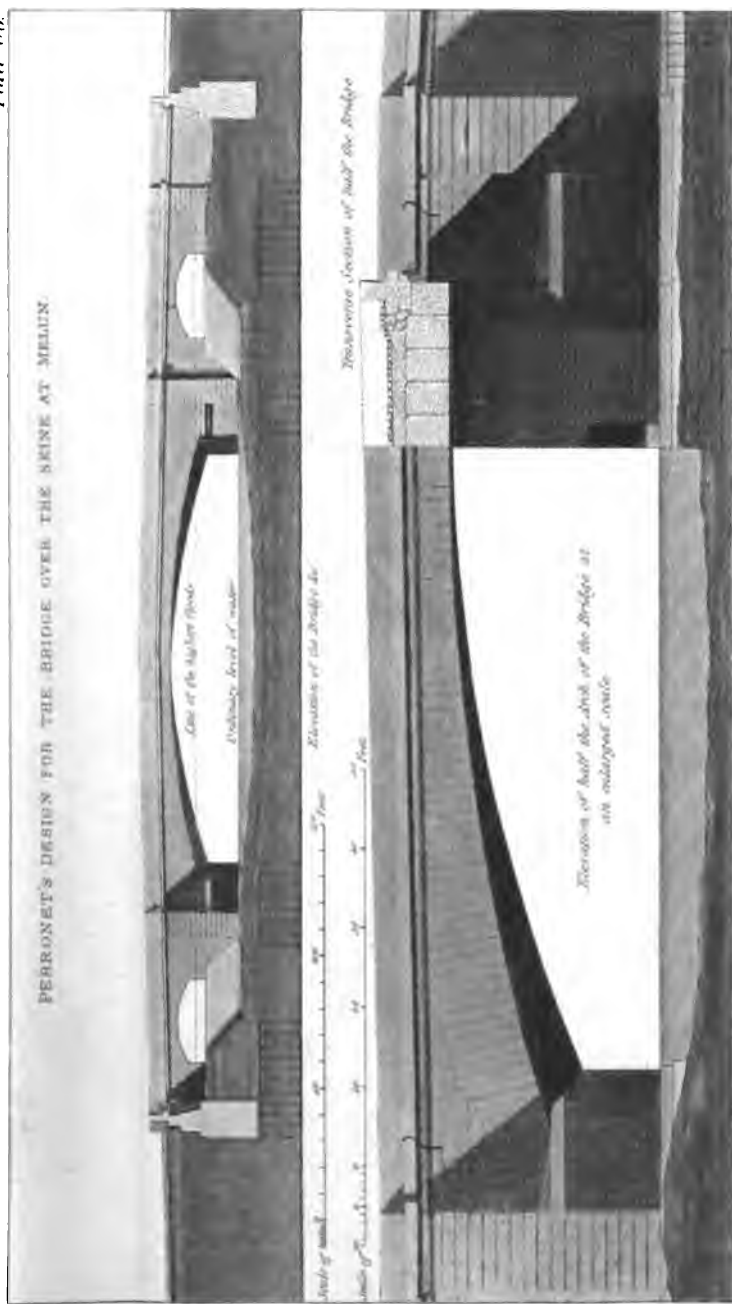




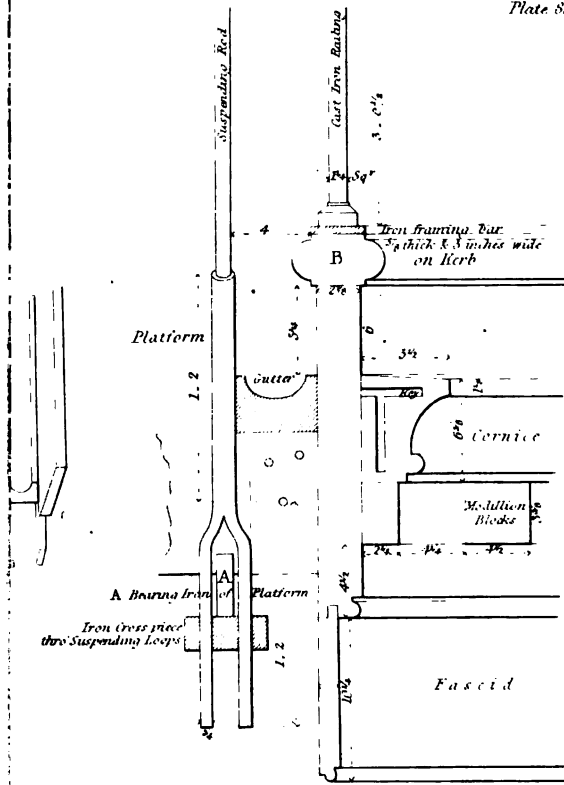
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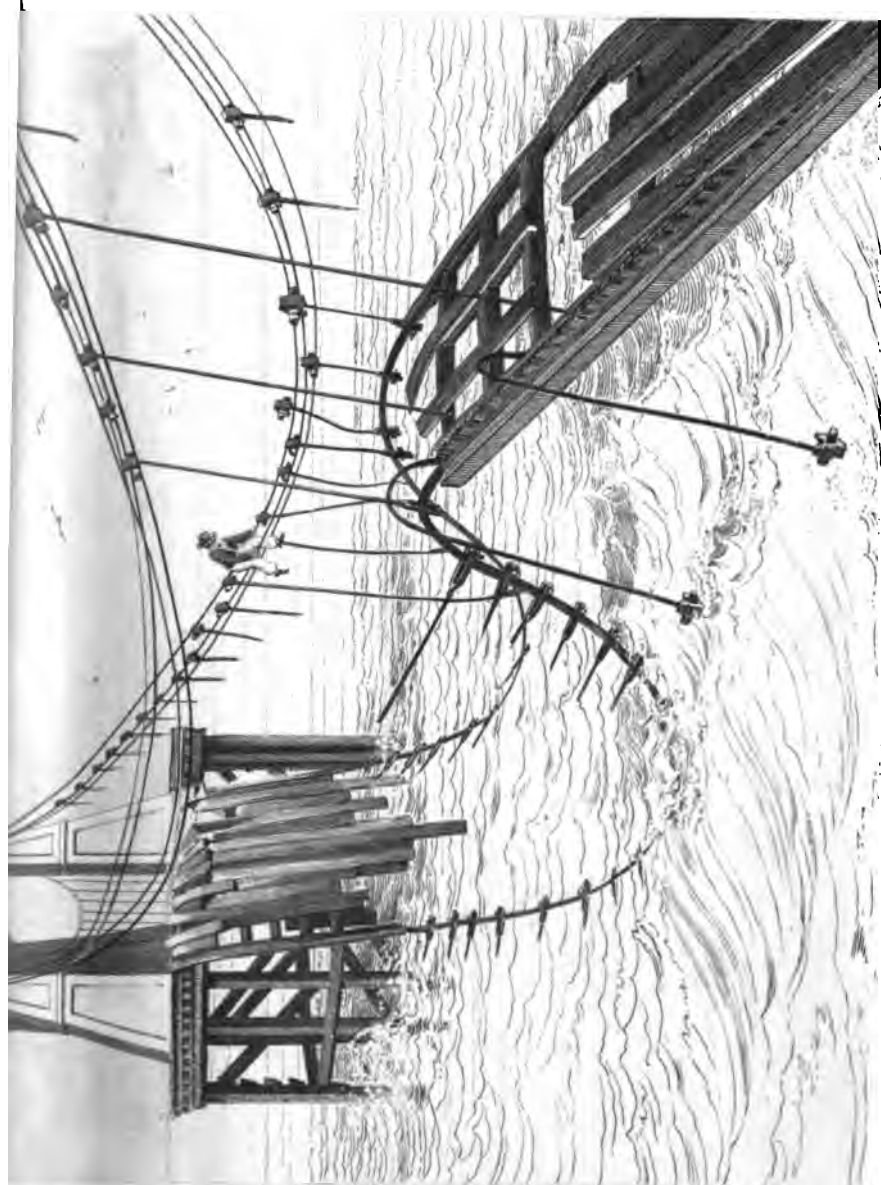
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1921: 18.6 18.6 18.6

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WIN

Plate 92

UDINA

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le. Anthea

N. Porter sc.

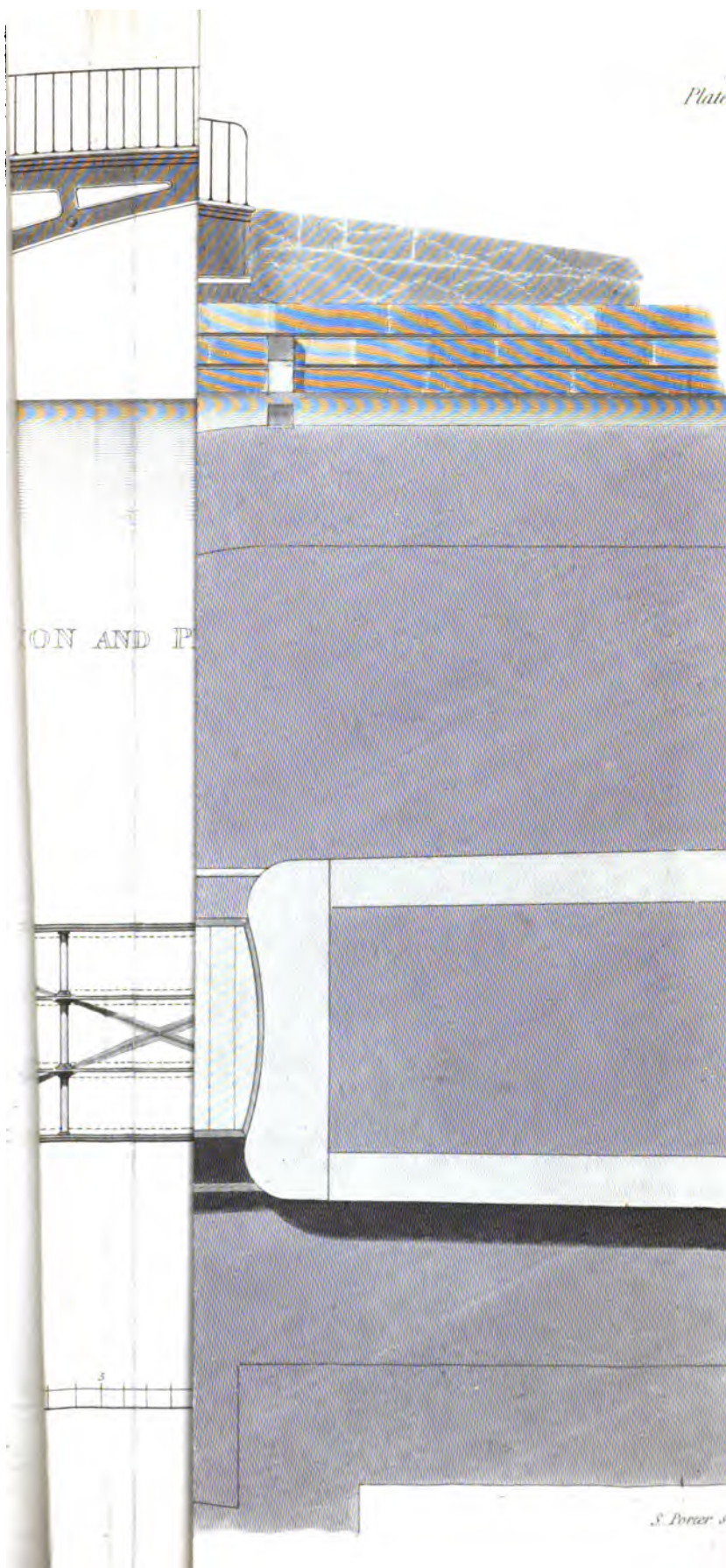
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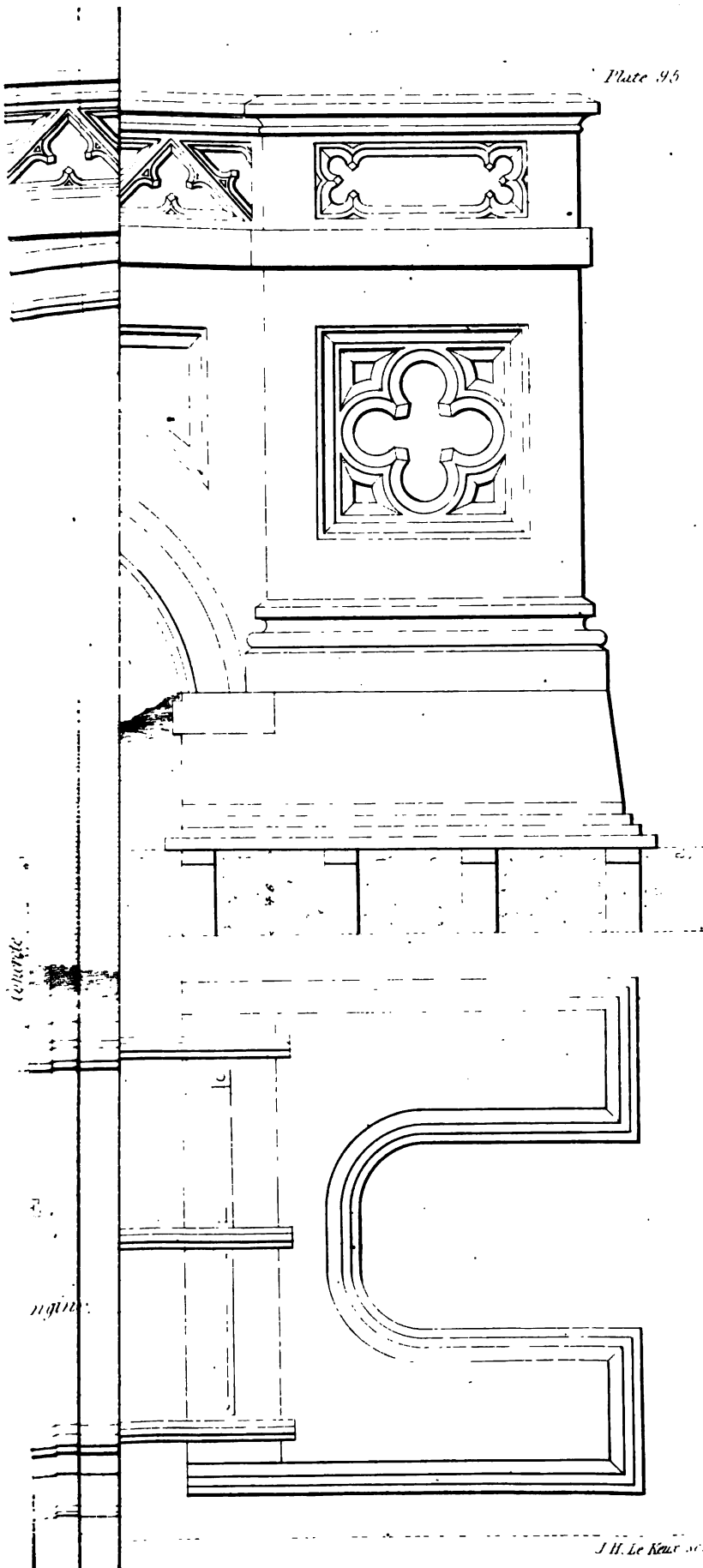


Plate 93.

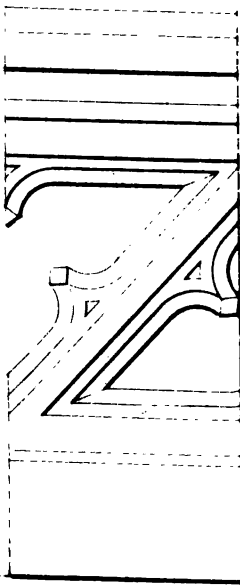
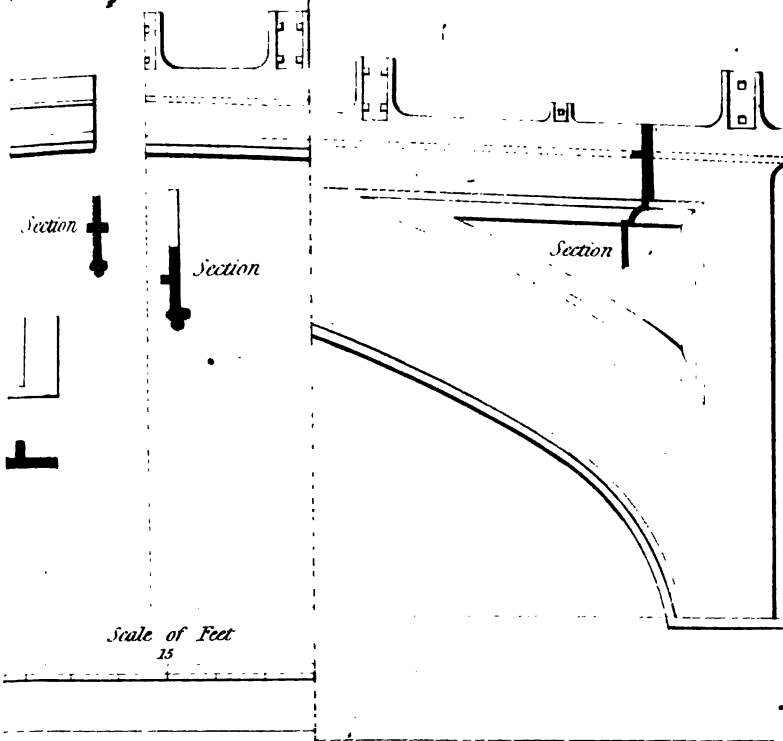
S. Porter sc











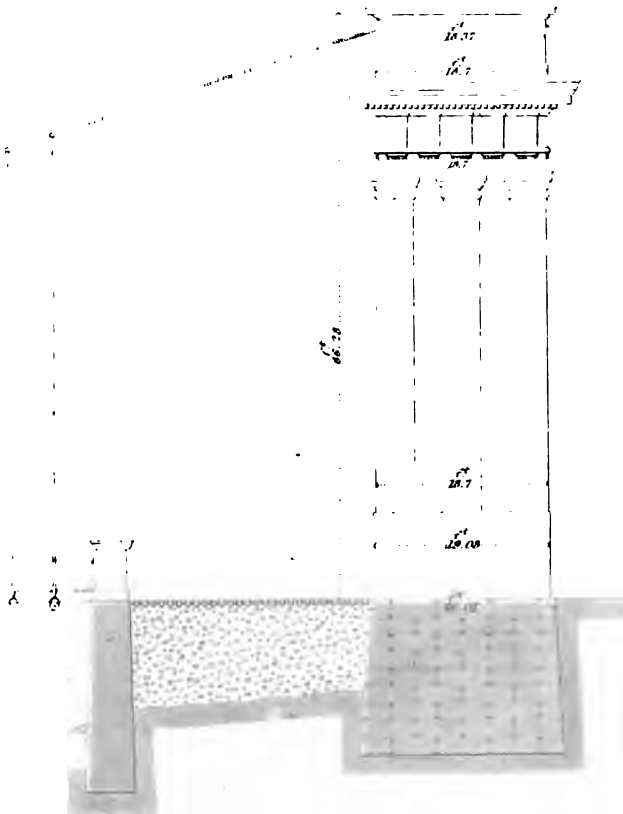
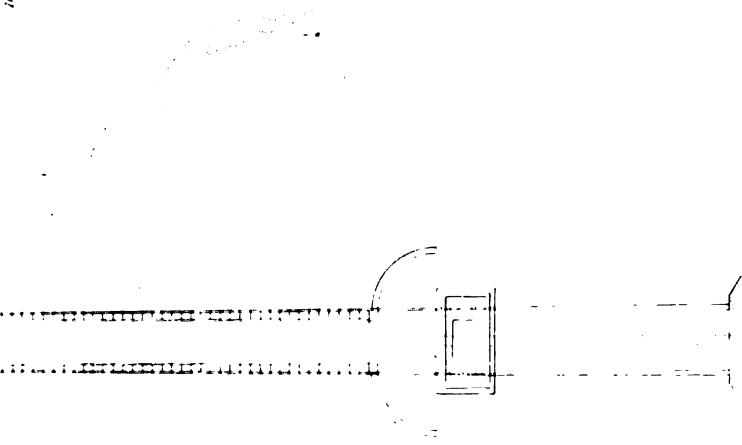
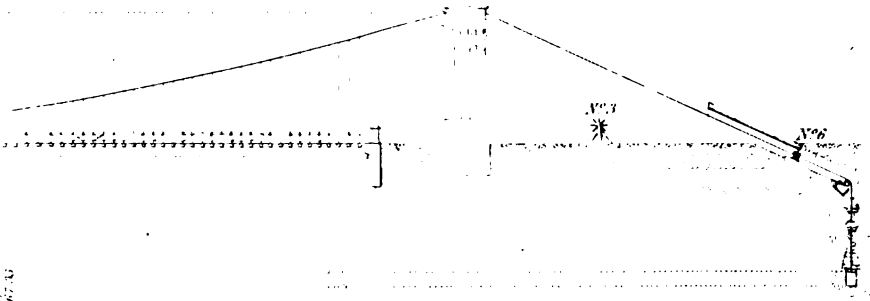




Fig. 5

Longitudinal Section of Main Pier.
(Transverse of the Bridge)

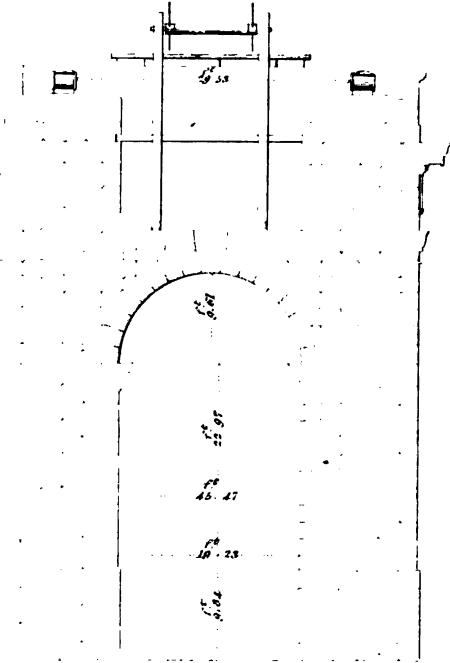


Fig. 6

Plan of the top of a Main Pier

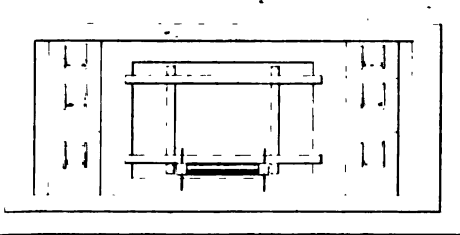
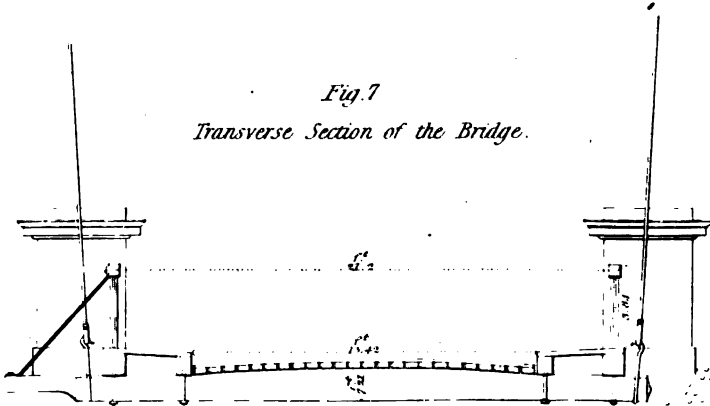


Fig. 7

Transverse Section of the Bridge.



T. S. Porter sc.



Technical drawing of a mechanical assembly, likely a pulley system. The drawing shows a pulley with a diameter of 0.004 and a width of 1.25. The pulley is mounted on a frame with a vertical support and a horizontal arm. The arm is labeled with a dimension of 1.75. The pulley is connected to a cable or rope that runs over it. The drawing is a black and white line drawing with dimensions in inches.

Technical drawing showing a detail of a roller. The roller is a cylindrical component with a cross-section showing four internal rollers or segments. Dimensions are indicated: 0.80, 1.20, and 2.65. The drawing is labeled "Details roller of a machine".

A schematic diagram of a U-tube manometer. The manometer tube is partially submerged in a liquid contained within a tapered vessel. The liquid level in the manometer tube is indicated by a horizontal line. The vessel's cross-section is shown as a trapezoid, narrowing downwards.

S. Porter sc.

Fig. 2

Elevation of the frame used in the manufacture of the mooring cables with the crane serving to stretch & bend them.

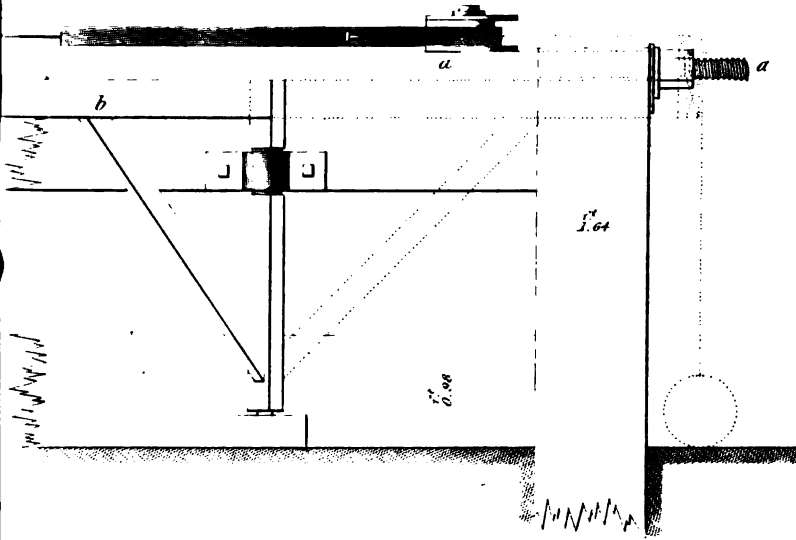
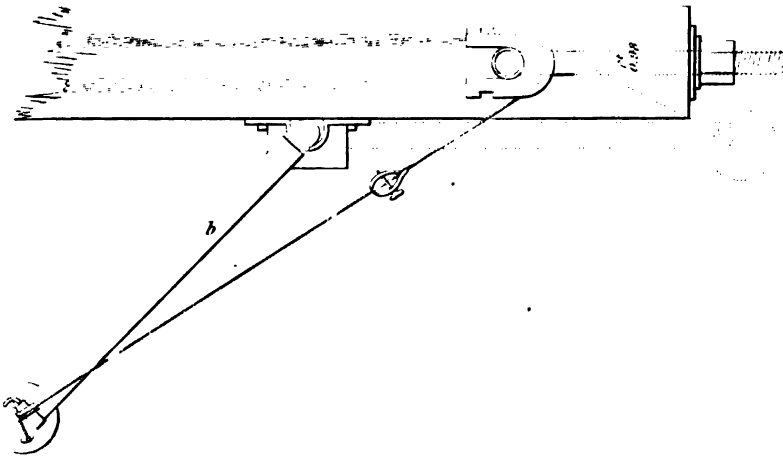


Fig. 3

Plan of the head of the frame in Fig. 2 with that of the crane.



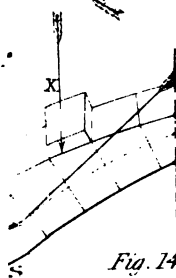
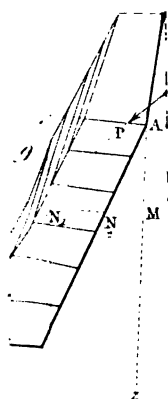


Fig. 14

y

Fig. 12



High Holborn

Fig. 18.

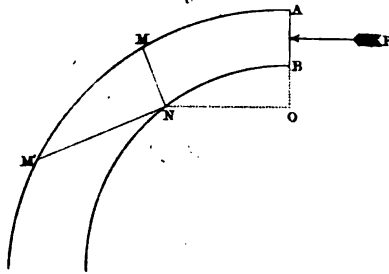


Fig. 20.

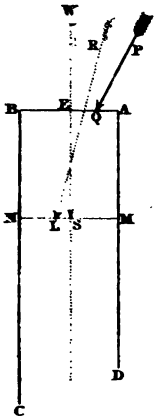


Fig. 21.

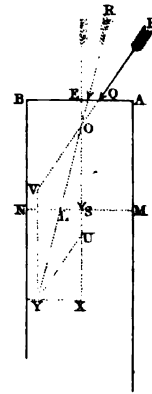


Fig. 19.

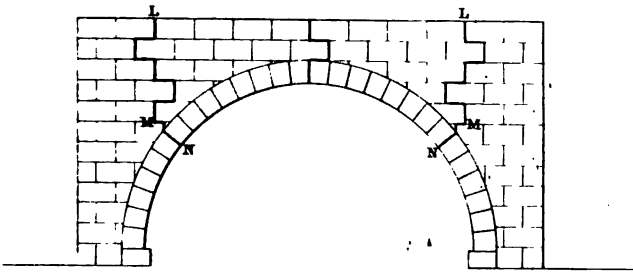


Fig. 22.

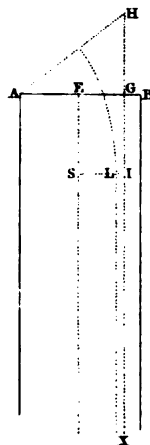


Fig. 23.

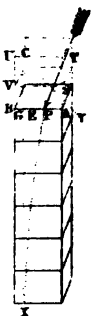
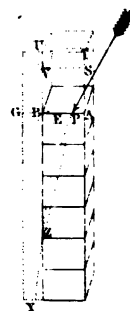
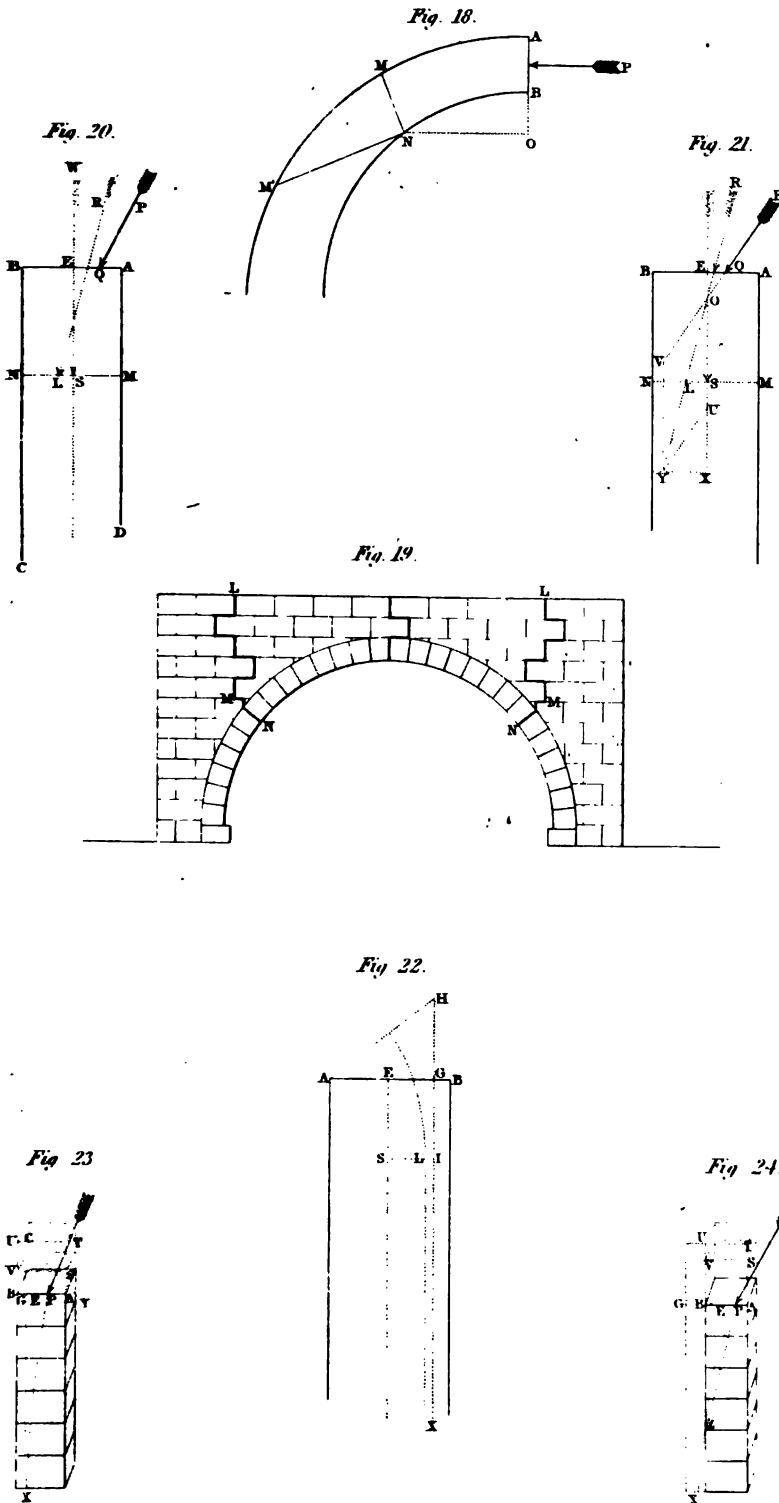
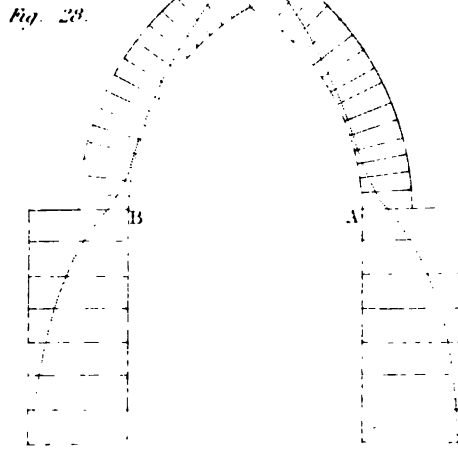
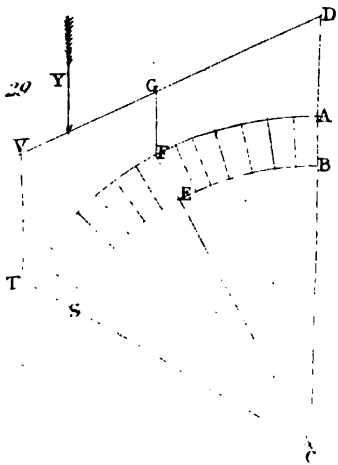
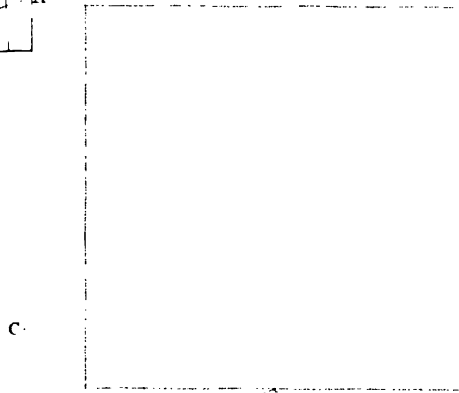
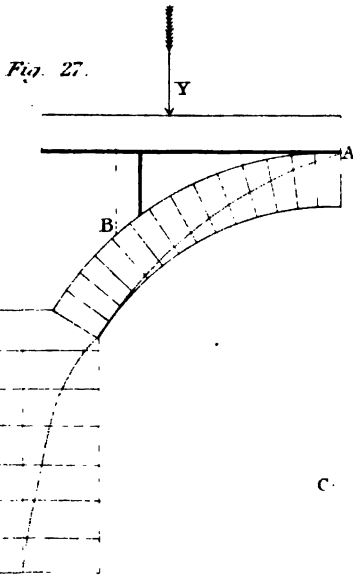
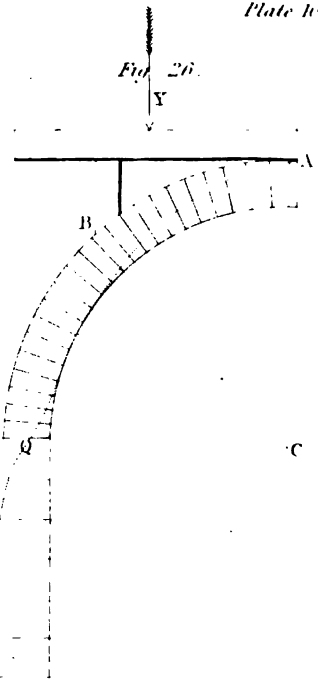
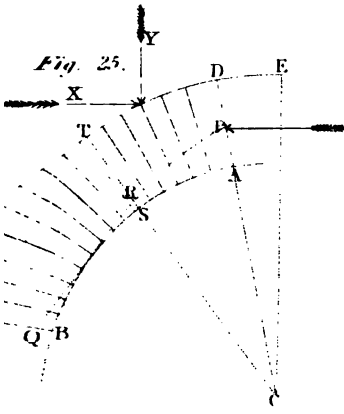


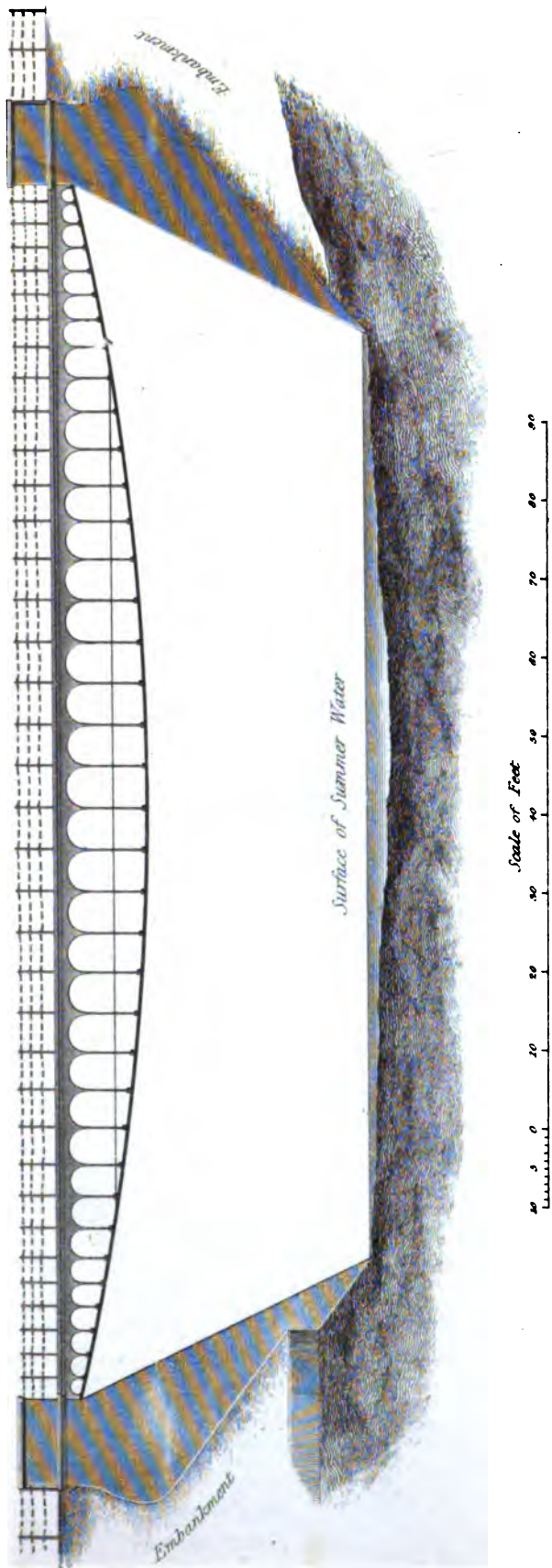
Fig. 24.







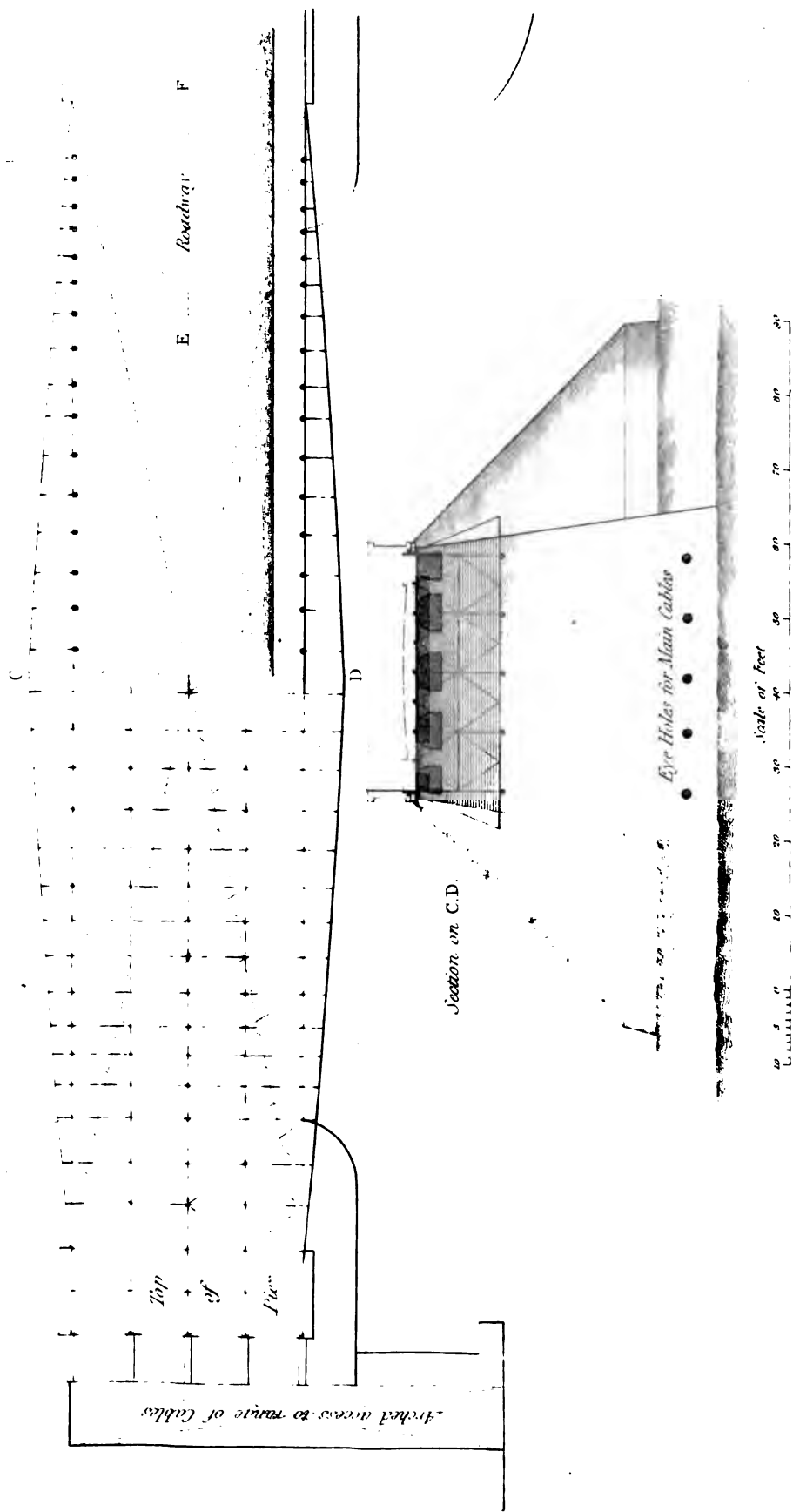
Elevation of a Chain Bridge upon the Catenarian principle.



R. Stevenson & E. del.

John Woad. Architectural Library. 59 High Holborn.

F. Mansell. sc.

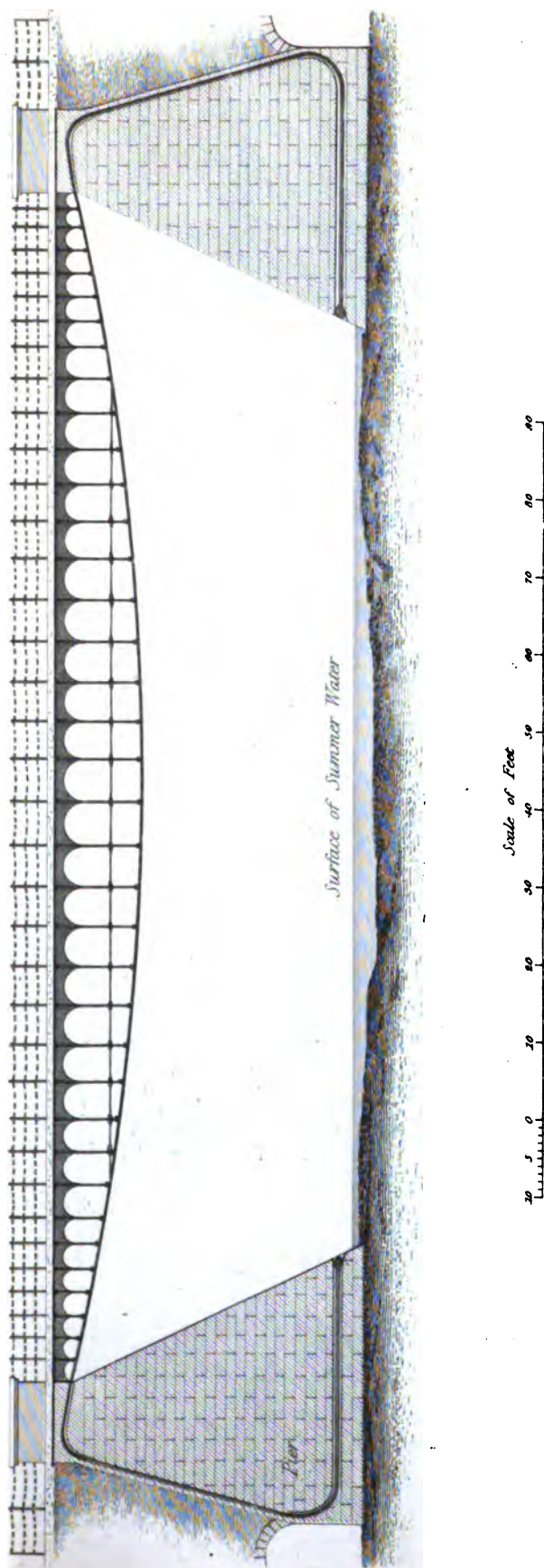


Stevenson C.E. del.

John Wale, Inventor and Librarian, 30 High Holborn.

F. Manvell sc.

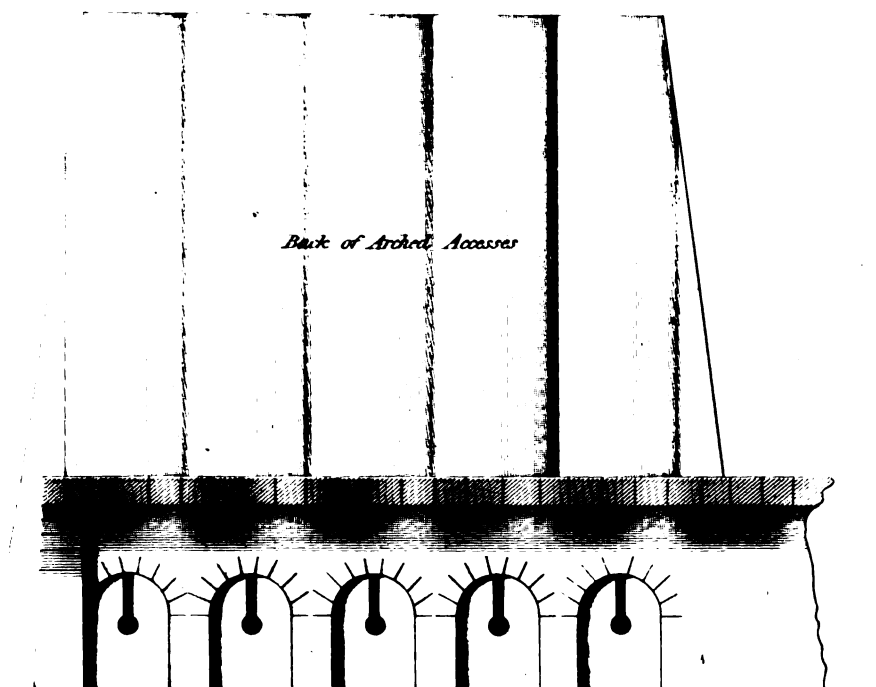
is a common form of an urban image.



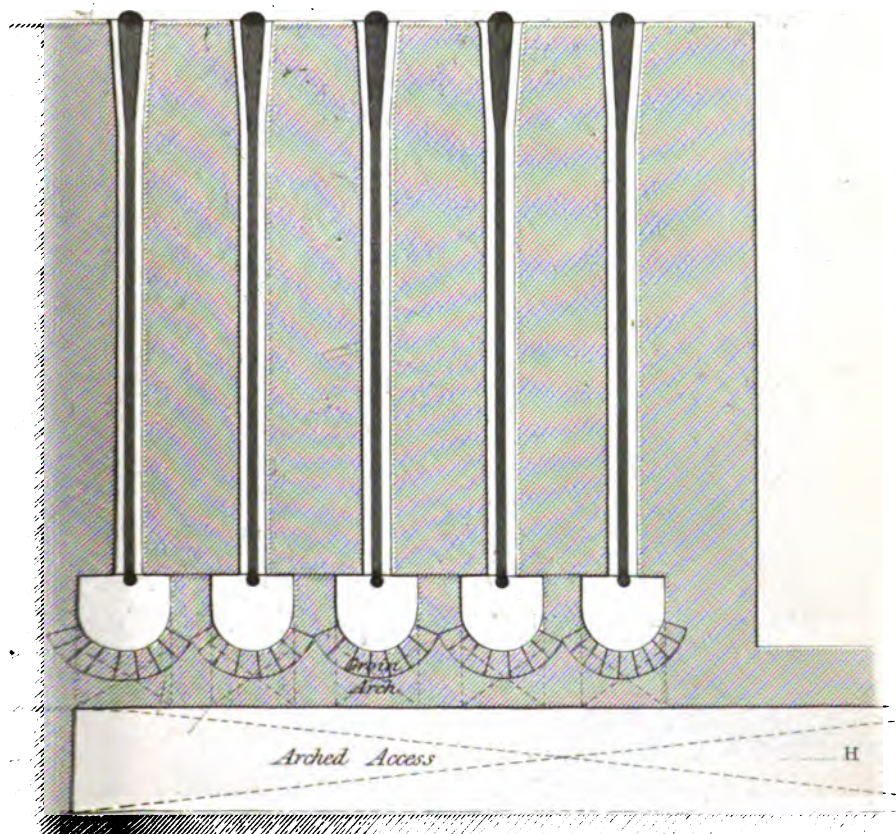
R. Stevenson C.E. del.

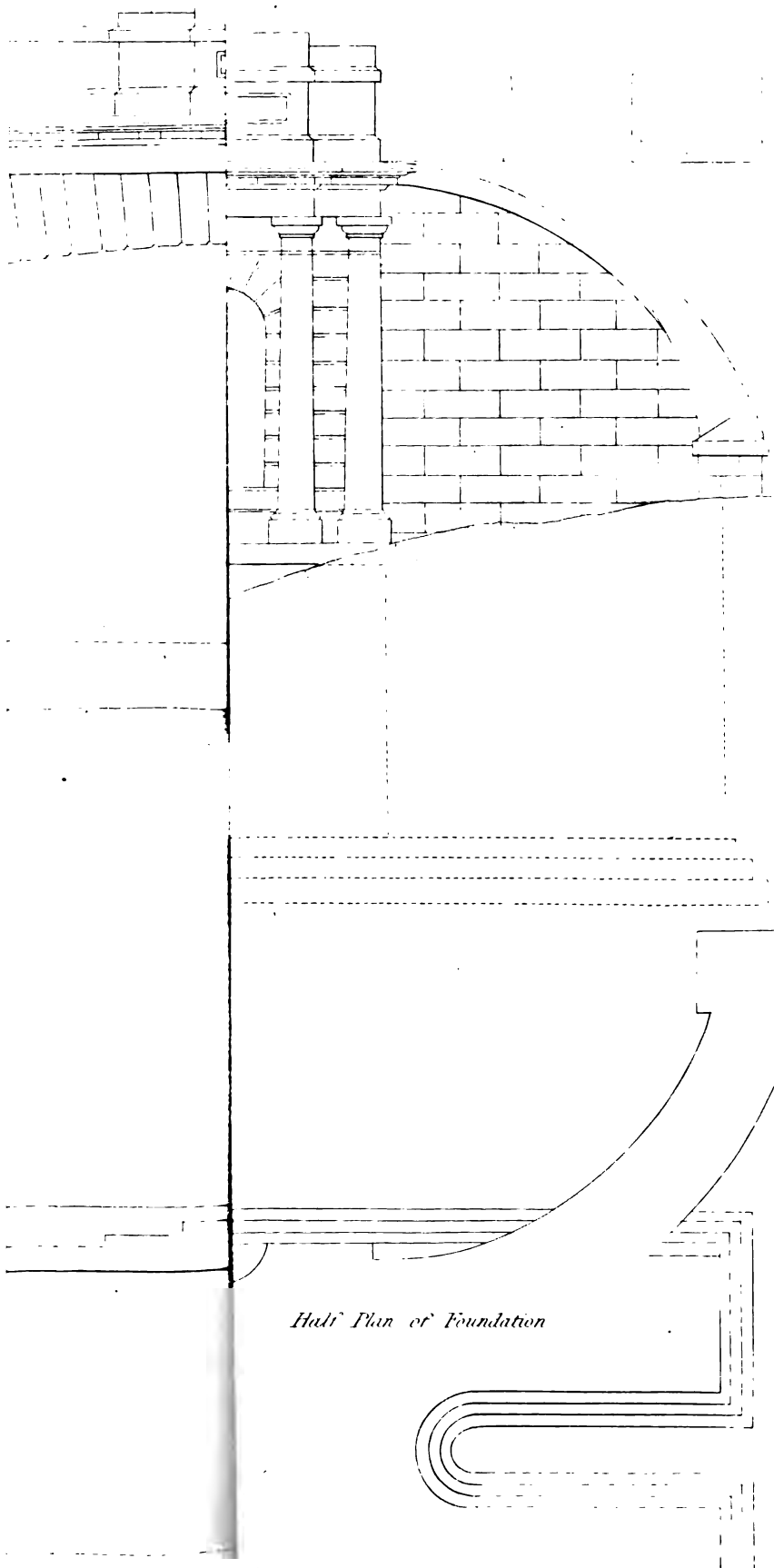
John Wade Architectural Library 59 High Holborn.

F. Maxwell no



Plan of Pier shewing the Cables &c.



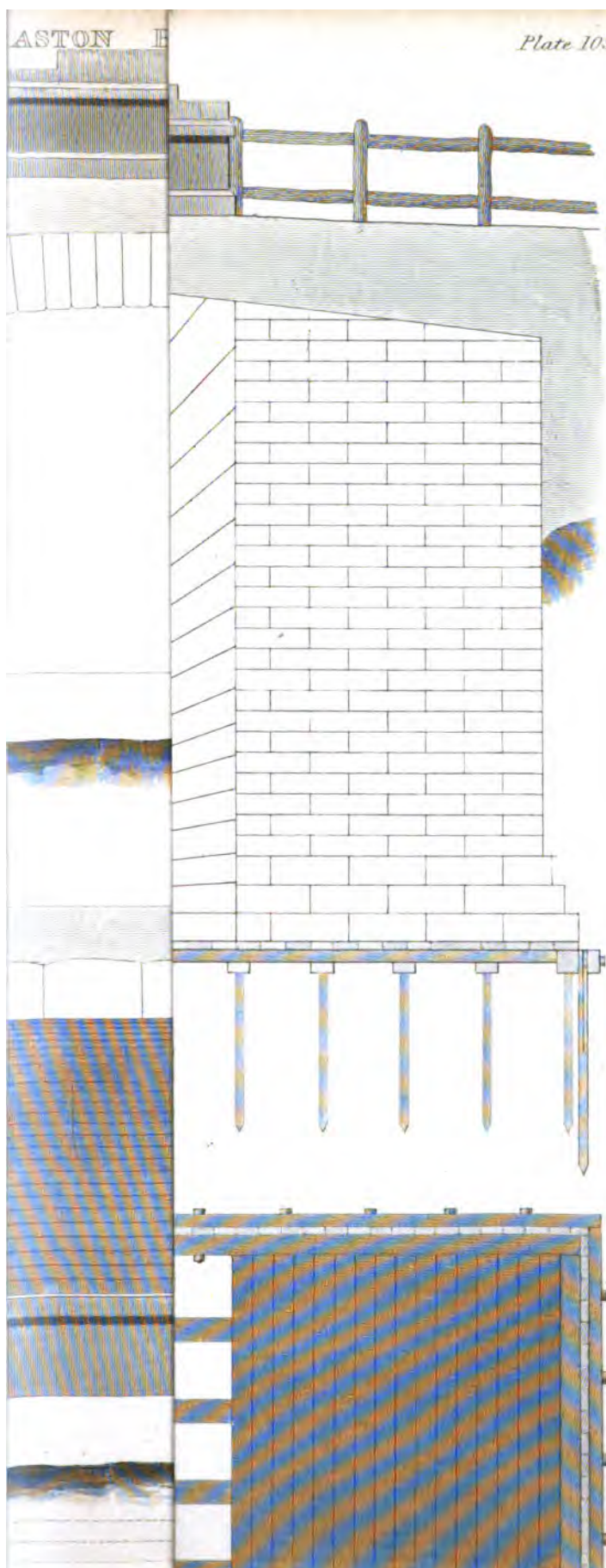


Hall Plan or Foundation

—

1

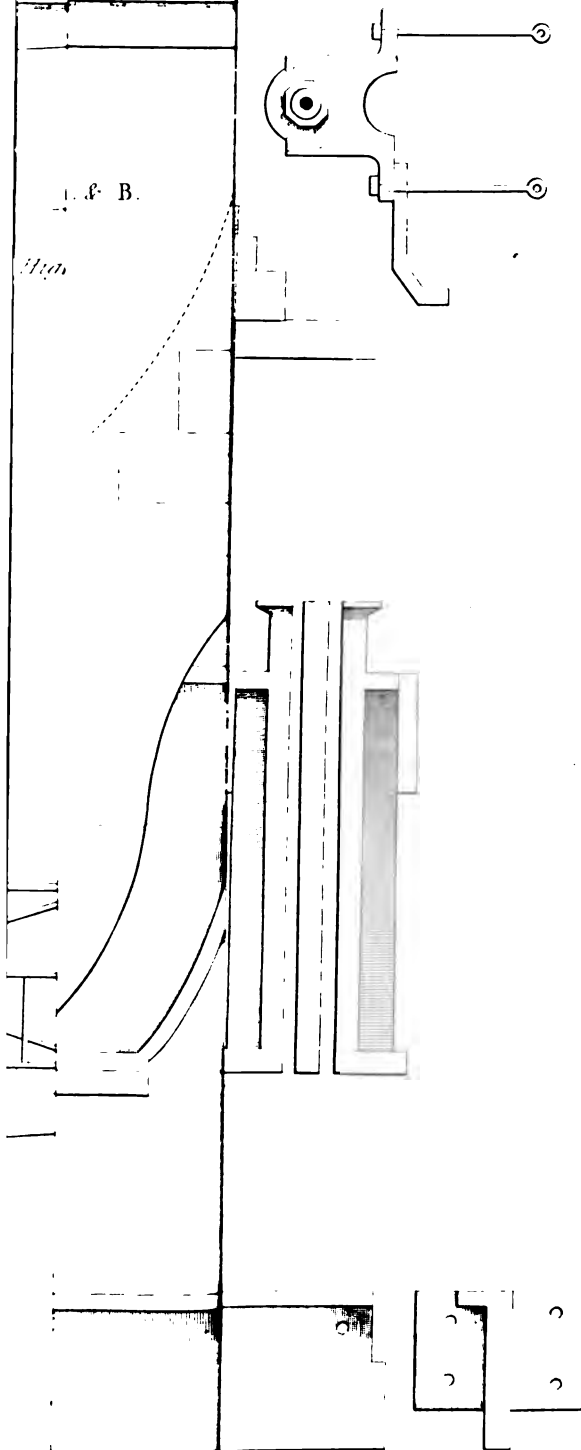
1

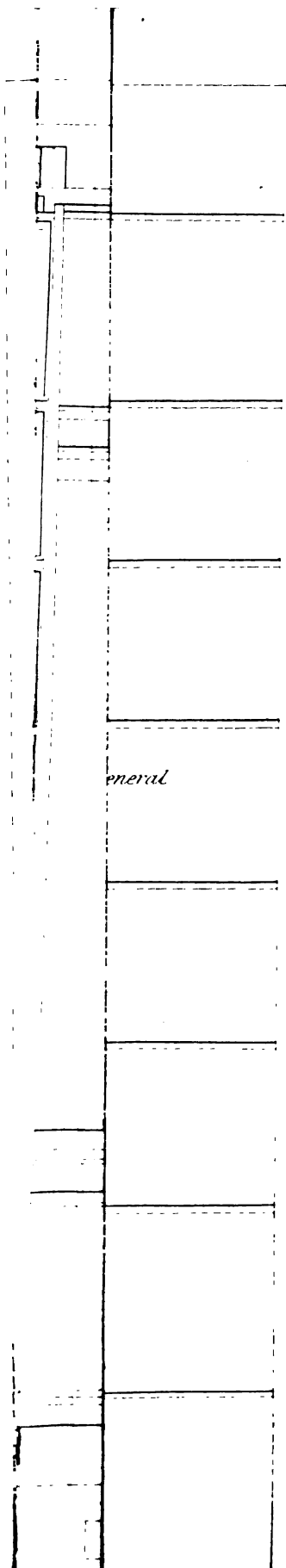


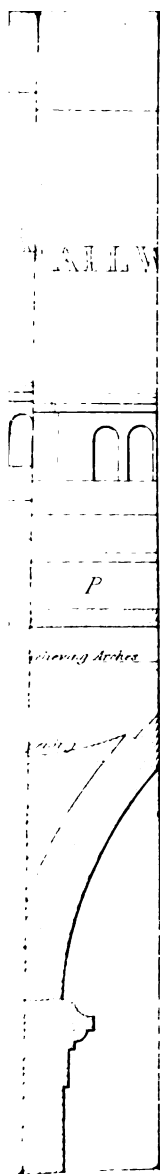
Section of Rubber Block

L. & B.

High

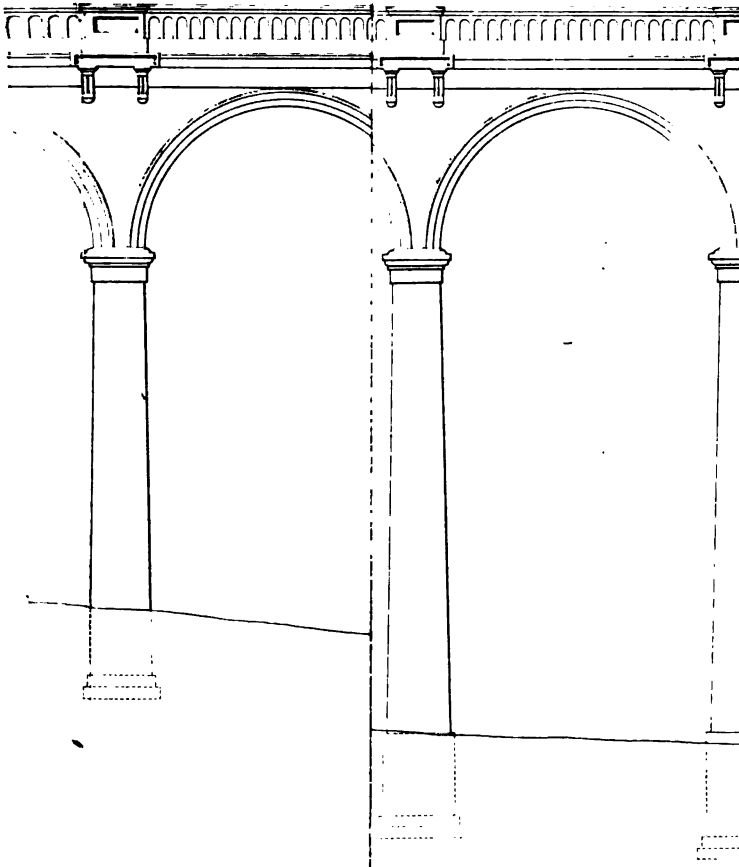




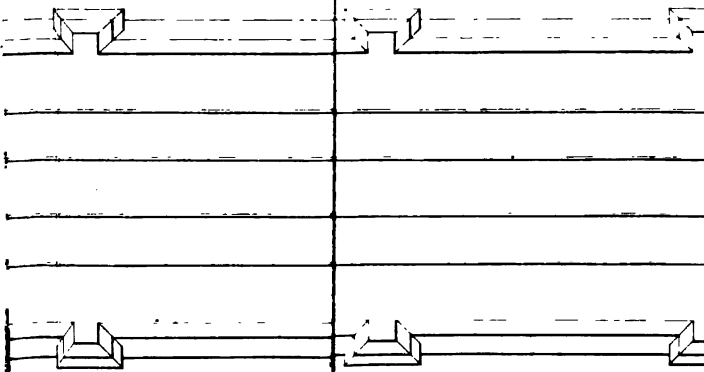


THE GREAT N. RAILWAY
Valley Viaduct.

14 Abutment & 8 Arches.



Plan



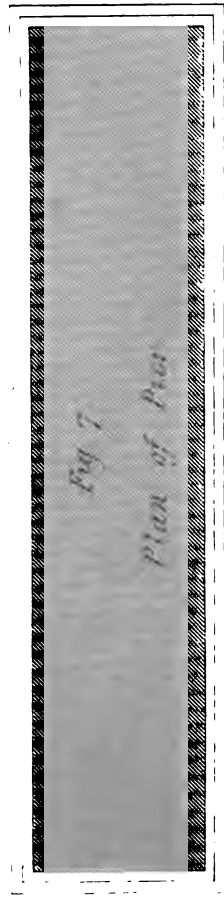
W. A. R. S. F. R. S. E. A. S. C. E.

37. Inches 30 Feet Span

W. A. R. S.

Wale 32, High Holborn, 1842.

opening in floor



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PLAN OF PIER



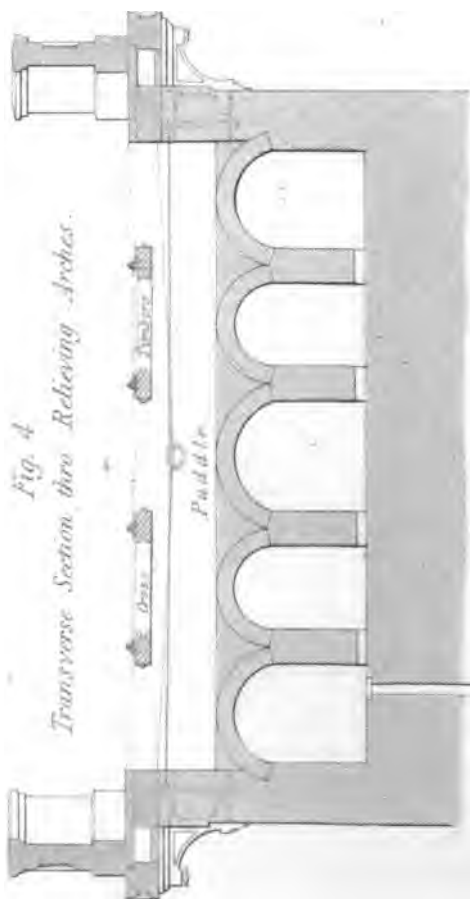
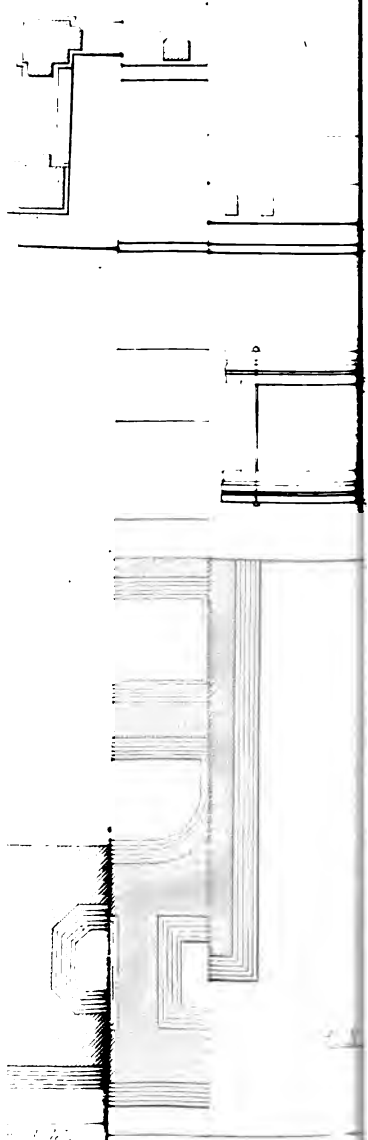


Fig. 4
Transverse Section thro Relieving Arches.

Designed by John H. R. H. H. H.

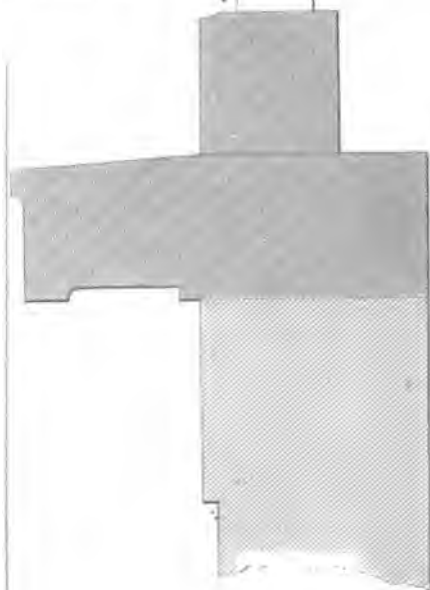
J. H. R. H. H. H.

Half-Section VIADUCT Fig. 12

[L.S.]

Section through

Parapet



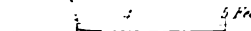
Section over

Fig. 14

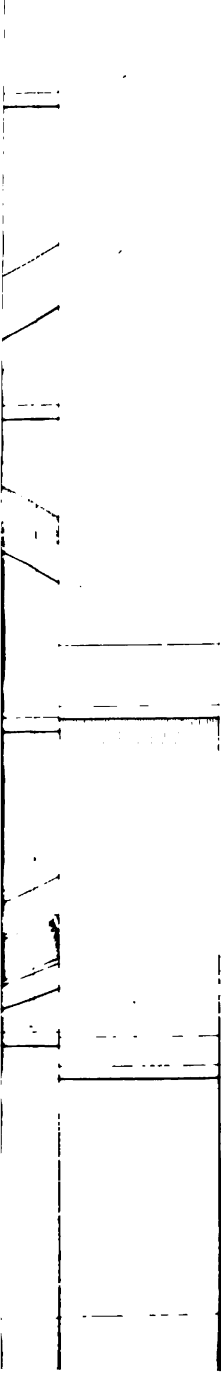
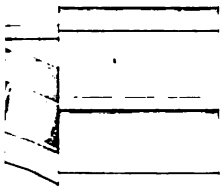
Section of outside
Brick Rings
to the Arches



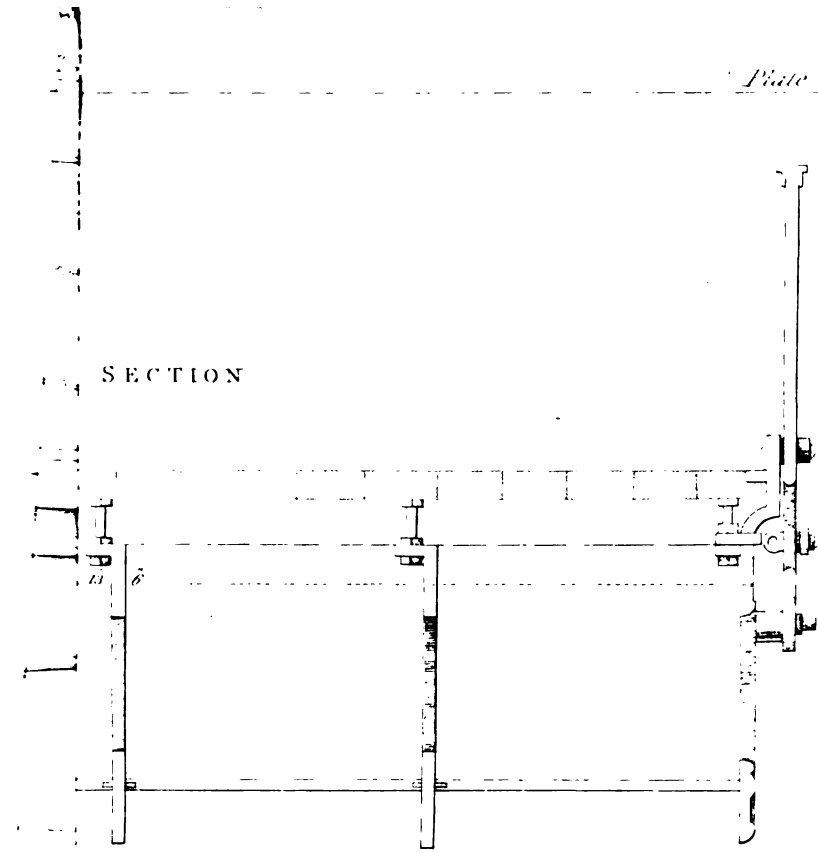
Scale



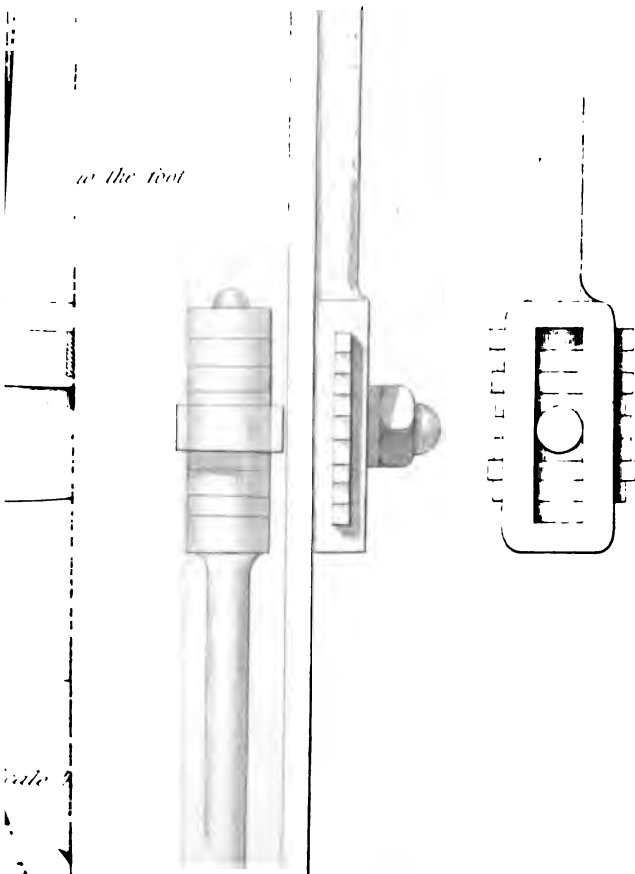
S U P E R

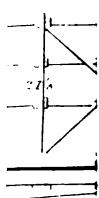


SECTION



in the foot





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radius 3

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